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ARIZONA STATE UNIVERSITY ■ COLLEGE OF BUSINESS
BUREAU OF BUSINESS AND ECONOMIC RESEARCH

Standard of Living Near Average in Metro Phoenix

Although "standard of living" is a common term, its definition usually is not clearly understood. Sometimes used interchangeably with "cost of living," at other times the term is considered synonymous with "wages" or "income." Technically, the standard of living is a comparison of the cost of living to wage/income levels, but few, if any, studies provide such data. This article presents one measure of the standard of living, which indicates that living standards in the Phoenix area are near the regional and national averages but less than the average of large metropolitan areas. For other Arizona cities, however, the standard of living is far below all comparative averages.

Because standard-of-living information is not as accessible as cost-of-living data, consumers, businesses and local governments usually concentrate on intercity cost-of-living comparisons. Individuals often use the information to make migration decisions: Should they move from

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Valley Inflation Decelerates to 0.3 Percent

Inflation in the Phoenix metropolitan area slowed considerably during the third quarter to 0.3 percent. The advance was the smallest since the first quarter, 1983, and much less than the 1.5 to 1.9 percent gains of most recent quarters (see Table 1). From the third quarter, 1984, prices of goods and services rose 4.5 percent to an index value of 191.4 in the third quarter, 1985 (1977 = 100).

COMPONENT INDEXES

Widespread price declines contributed to the decelerating inflation rate. Two of the three largest categories, food/beverages and transportation, experienced their greatest decreases in years. Higher housing costs and, to a lesser extent, higher medical care and entertainment prices, offset these declines.

Food and Beverages

A 0.7 percent decrease in the third quarter was the largest since the first quarter, 1976. Prices dropped for food purchased both in grocery stores and in restaurants. Lower prices were common for grocery items, including cereal and bakery products; meats, poultry, fish and eggs; and fruits and vegetables (see Table 2). In the latter two categories, prices were no higher during the

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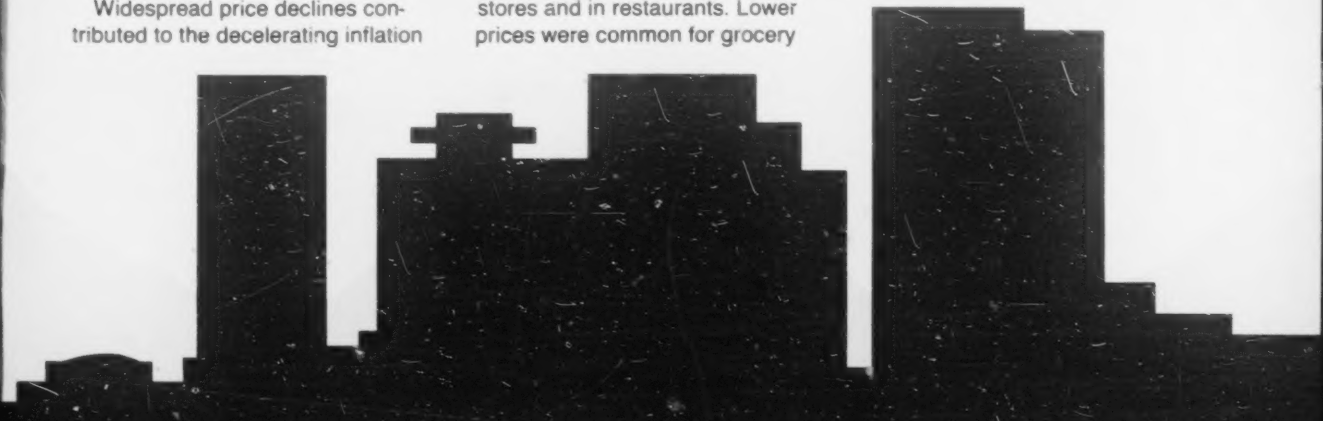

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one city to another to accept a new job? Businesses use cost-of-living data both in establishing wage/salary levels that reflect differences in living costs nationwide and in deciding whether to relocate or open a branch in another area. Finally, local governments use their area's cost of living as an enticement to attract new businesses and individuals.

While the cost of living is sometimes an adequate measure — for example, retirees who do not earn wages do not need to be concerned with the standard of living — generally, the standard of living provides more useful information. For example, an individual who wishes to move to another region of the country may exclude city 'x' from the list of potential new homes because it is known to be an expensive city. However, if wage levels in city 'x' are also high, its living standard may be higher than that of city 'y,' which has a low cost of living but a low wage structure as well.

TABLE 1
MEDIAN LIVING COST INDEXES
By Geographic Area, Population of Urbanized Area, and Income
(National Average = 100)

Area	Index
New England	108*
Middle Atlantic	101
South Atlantic	98
East South-Central	94*
West South-Central	101
East North-Central	98
West North-Central	96*
Mountain	100
Pacific	104*
Population	
Less than 25,000	97*
25,000 - 74,999	96*
75,000 - 124,999	99
125,000 - 199,999	99
200,000 - 399,999	101
400,000 - 999,999	101
1 million or more	107*
Income	
Less than $21,500	96*
$21,500 - $23,999	98
$24,000 - $26,499	99
$26,500 or more	103*

*Statistically significant difference from the national average.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University, based on 1980 Census population figures, 1984 *Sales and Marketing Management* household disposable income figures, and 1984 data of the American Chamber of Commerce Researchers Association (ACCRA).

This article analyzes living standards by comparing income levels to cost-of-living data. Differences in the standard of living are examined by geographic area as well as by population size of a town or urbanized area. First, however, both the cost of living and income levels must be reviewed.

THE COST OF LIVING

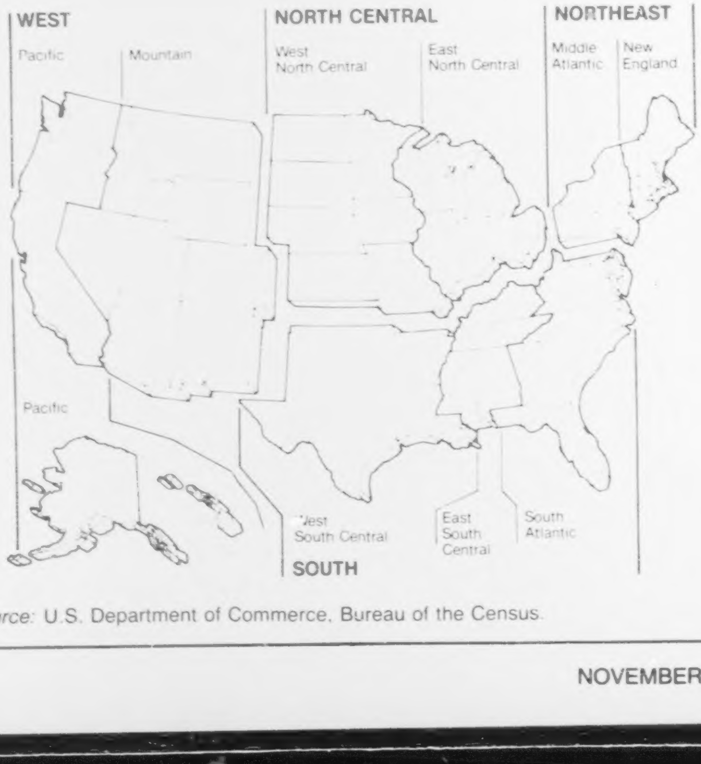
The American Chamber of Commerce Researchers Association's (ACCRA) quarterly report, *Inter-City Cost of Living Indicators*, presents cost-of-living information for U.S. towns and cities in which the chamber of commerce volunteered to participate. In any given quarter, the ACCRA study includes at least 225 listings, including both small towns and large cities such as Phoenix, Tucson and Yuma. It is probably the most comprehensive source of cost-of-living data that is readily available to the general public.

The ACCRA Cost of Living Index measures the relative living cost of each participating city, as compared with the national average of those cities. Strong regional variations are evident in the data. Table 1 provides a summary of living costs for nine areas, based on the Census Bureau's regional classification scheme shown in Figure I. These indices show the New England region having the highest overall cost of living and the East South-Central region the lowest overall costs, with a 15 percent difference between the two regions. The median cost of living in the Mountain states, which include Arizona, is exactly the national average.

The ACCRA data also demonstrate that, other factors being equal, the larger the urbanized area, the higher the cost of living (Table1). Living costs are significantly lower than the national average in smaller towns (less than 75,000), while they are higher than the national average in large urban areas (1 million or more).

With a population of approximately 1.7 million during 1984, the Phoenix metropolitan area is one of the largest in the nation. Thus, the area would be expected to have a cost of living higher than the national average. While this is the case — Phoenix has a cost-of-living index of approximately 105 — it is less than the average for large urban areas. The same is true in Tucson: With a

FIGURE 1
REGIONS AND CENSUS DIVISIONS OF THE UNITED STATES



Source: U.S. Department of Commerce, Bureau of the Census.

metropolitan population of approximately 600,000, the area's reported cost-of-living index of 99 is lower than the average of urban areas of equivalent size. In contrast, the Yuma cost-of-living index of 103 is greater than would be expected for a city of 50,000.

INCOME LEVELS

Analysis of the ACCRA data base indicates that a strong connection exists between area income levels and living costs. This correlation is slightly higher than that of cost of living to population or that of cost of living to geographic region. Table 1 clearly shows the relationship of income to cost of living, as lower income areas (less than $21,500) have the lowest living costs, and higher income areas (more than $26,500) have the highest living costs (both statistically significant). The difference in costs between these two income classes is 7 percent.

As with the cost of living, income levels vary considerably nationwide. Lowest in the South, they differ significantly from the national average in the South Atlantic and East South-Central regions, as shown in Table 2. The New England and East North-Central regions report significantly higher incomes. Incomes also vary by city size, with small towns significantly below the national norm and large metropolitan areas significantly higher.

Income levels in Arizona are far below average, when typical levels for the Mountain region and various city sizes are considered. The median household effective buying income in the Phoenix area during 1984 was estimated at $25,153. While slightly higher than the median of both the Mountain states and the entire nation, this level is much below the $28,610 median of large urban areas. Tucson's median income of $21,012 and Yuma's median income of $19,894 are both well below the medians of the nation, the region, and the respective population classes.

STANDARD OF LIVING

A measure of the standard of living can be derived by adjusting income levels for the cost of living: the simple division of an area's income by its cost-of-living index. The adjusted income figures should vary little by city size or by region if income levels adequately compensate for differences in the cost of living.

Although the adjusted income measure reduces area income differentials by population size, income levels of small towns continue to be significantly lower and those of large urbanized areas remain significantly higher. This adjustment only slightly reduces overall variation in income across the regions of the United States. The standard of living remains lowest in the South, with significant differences in the East South-Central and South Atlantic regions. After adjusting for cost-of-living differentials, the New England region no longer enjoys significantly higher income levels; rather, the East North-Central (Great Lakes) and West North-Central (Great Plains) regions have the highest living standards.

Living costs, income levels, and standards of living vary from one metropolitan area to another within each region and each population size category. Thus, care must be taken in generalizing these findings to localized areas. New York City and various small towns in the South experience the lowest living standards; the highest standards of living are found in large urban areas in the Midwest and West, including Minneapolis-St. Paul (see Figure II).

Primarily because of relatively low income levels in Arizona, the state's standard of living is also relatively low. In the Phoenix area, the 1984 adjusted income of $23,842 was near both the regional and national medians but was approximately 10 percent less than expected for a large metropolitan area. For Tucson and Yuma, the standards of living were lower — from 10 to 20 percent less than averages for the nation, region, or cities of comparable size.

CONCLUSIONS

Living costs vary widely from city to city across the United States. Certain regions tend to be more expensive than others, and large cities tend to be more expensive than small cities. For those who are not part of the work force, such as retirees, these living cost differences are sufficient to contribute to migration patterns. For those who are employed, and for employers, living cost variations need to be considered in conjunction with wage/income levels. A worker, for example, is not likely to find a low living-cost area as attractive if wage/income levels are also low. Similarly, an employer may be attracted to a low wage/income area but may have difficulty recruiting workers if the cost of living is high.

Thus, in most applications, the standard of living is more important than either living costs or wage/income levels. If a city has a low cost of living

TABLE 2
MEDIAN HOUSEHOLD INCOME WITH AND WITHOUT COST-OF-LIVING ADJUSTMENT

Geographic Area	Income	Adjusted Income
New England	$29,049*	$28,206
Middle Atlantic	26,237	25,965
South Atlantic	23,191*	23,384*
East South-Central	21,297*	21,947*
West South-Central	24,465	23,898
East North-Central	25,991*	26,563*
West North-Central	26,066	26,734*
Mountain	24,173	23,883
Pacific	25,442	24,177
Population of Urbanized Area		
Less than 25,000	$23,133*	$23,284*
25,000 – 74,999	23,172*	23,918
75,000 – 124,999	24,012	24,587
125,000 – 199,999	25,321	25,472
200,000 – 399,999	25,774	25,606
400,000 – 999,999	25,442	24,915
1 million or more	28,610*	26,666*
NATIONAL AVERAGE	$24,561	$24,574

*Statistically significant difference from the national average.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University, based on 1984 *Sales and Marketing Management* household disposable income figures and 1984 ACCRA cost-of-living figures.

and relatively high income levels, the local government has a much better chance of attracting both new employers and new workers. Various cities throughout the United States, in all regions and of all sizes, enjoy this favorable relationship between income levels and living costs. However, large metropolitan areas tend to have the highest living standards. The geographic pattern to this variation is significant, with living standards in the Southeast tending to be lowest and those in the Great Lakes and Great Plains regions the highest.

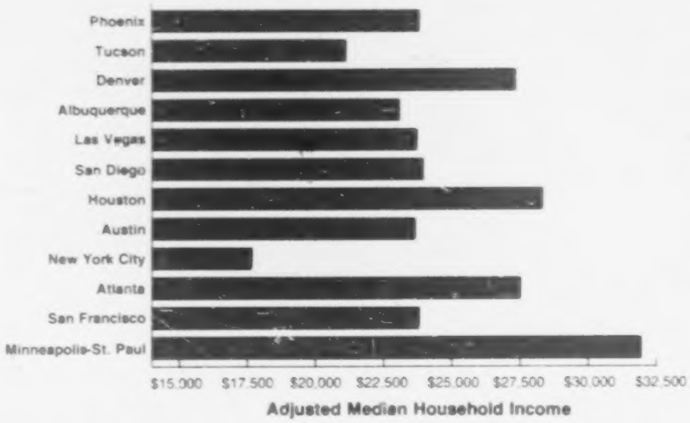
Research has yet to identify the causes of these variations in incomes, living costs and living standards. The economic laws of supply and demand appear to play a role. The region of the country with the highest living standards — the Midwest — is also an area that has suffered from declining population. Thus, high income levels in comparison to the cost of living are apparently the result of labor market adjustments to retain and attract people to the area. In contrast, Arizona is such an attractive area that incomes can lag behind living costs without adversely impacting the state's growth.

— **Timothy D. Hogan**

— **Tom R. Rex**
Research Manager

Dr. Hogan is Professor of Economics in the ASU College of Business and Director of the State Data Center.

FIGURE II
STANDARD OF LIVING IN SELECTED CITIES



Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

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third quarter than during the third quarter, 1984.

Prices of many food items are seasonal; typically, food price inflation slows throughout the year, culminating in a small fourth quarter gain. Lower prices during the third quarter suggest that the seasonal slowdown occurred earlier than usual in 1985; price increases are likely to resume during the fourth quarter.

Housing

Relatively large gains in housing costs, the largest portion of the CPI, prevented the overall index from declining in the third quarter. Renters' costs rose 1.5 percent; and homeowners' costs increased 2.0 percent, the most since the rental-equivalency method of measuring homeownership costs was implemented during 1983.

The greatest boost to this category resulted from an 11.8 percent advance in electricity costs, primarily due to a fuel cost adjustment. However, this gain was partially offset by another decline in utility gas rates; the price of piped gas was 8.1 percent lower in the third quarter than in the third quarter, 1984.

Transportation

The transportation index dropped 2.2 percent, its greatest quarterly decline in the history of the Phoenix CPI. Gasoline prices fell 9.1 percent, the most since the first quarter, 1983, but this decrease came on the heels of an 11.5 percent jump during the second quarter. The indexes of several other transportation categories declined during the third quarter: used cars, vehicle parts and equipment, vehicle maintenance and repair, and vehicle finance charges. In each of these categories, the index was lower than it was in the third quarter, 1984. In contrast, vehicle insurance premiums rose 3.7 percent during the third quarter and were 28.7 percent higher than the level of one year earlier.

Medical Care

While medical care costs continued to advance at a relatively rapid rate, the composition of the increases again changed. Hospital costs jumped 6.3 percent in the third quarter, the first gain of any magnitude since the fourth quarter, 1983. Health insurance premiums, however, experienced their second consecutive relatively small increase, rising less than in any two-successive-quarter period since early 1982.

CPI Description Available

A description of the Consumer Price Index is available on request from the Bureau of Business and Economic Research. It answers common questions concerning the CPI; for example:

- What is the difference between the CPI for all urban consumers (CPI-U) and the CPI for urban wage earners and clerical workers (CPI-W)?
- What is the relationship between the CPI and the inflation rate and how is this rate calculated?
- Is the CPI a cost-of-living index?
- How is the CPI applied in contractual agreements?

A copy of the CPI description can be obtained by calling (602) 965-3961.

Other Categories

Apparel costs contributed to the third quarter's slow inflation by falling 2.5 percent, this category's greatest decline in the history of the Phoenix CPI. A small 0.3 percent increase in prices of other goods and services, the smallest since the first quarter, 1981, also helped hold down inflation. Entertainment costs, however, rose 2.4 percent.

COMPARISON AREAS

For the first time in seven quarters, the quarterly inflation rate in the Phoenix area was less than the national average (see Table 3). However, the area's price increases for the year ending in the third quarter remained higher than the national average in all major categories except other goods and services.

The third quarter's slower inflation allowed the Phoenix area to escape the dubious distinction of having the highest inflation rate in the nation. The annual increase in San Diego was much higher than in Phoenix, primarily due to a wide disparity in housing inflation. The inflation rate in other metropolitan areas, including Los Angeles and Atlanta, was also greater than that in Phoenix.

OUTLOOK

Short-term inflationary surges in specific items, which had contributed to the Valley's relatively rapid price inflation of recent quarters, were notably absent during the third quarter, with the exception of the electricity rate hike. Instead, deflationary conditions prevailed throughout the food, transportation and apparel categories.

While the small gain of the third quarter likely is only an aberration, it may signal that the Valley's quarterly inflation rate will not return to the 1.5 percent to 1.9 percent range that was common during the past two years. Due to seasonal conditions, such as switching to the winter electricity rate schedule, the fourth quarter inflation rate probably will remain moderate; however, much of the downward influence of food prices may have been felt during the third quarter. Additional evidence of moderation in the Valley's inflation rate will be necessary to justify lowering the 1986 forecast below 6 percent.

— **Tom R. Rex**
Research Manager

TABLE 1
PERCENT CHANGES IN METROPOLITAN PHOENIX CONSUMER PRICE INDEX

		Percent Change from Preceding Quarter						
Expenditure Category	*Relative Importance*	*1st 1984*	*2nd 1984*	*3rd 1984*	*4th 1984*	*1st 1985*	*2nd 1985*	*3rd 1985*
ALL ITEMS	100.0	1.9	1.5	1.7	0.7	1.8	1.6	0.3
Food and Beverages	19.0	1.8	0.7	1.0	0.2	2.6	1.1	−0.7
Housing	38.9	0.6	2.0	2.3	−0.1	1.2	1.4	2.2
Apparel and Upkeep	4.8	2.5	−1.3	−0.1	0.4	2.2	3.1	−2.5
Transportation	21.7	1.6	2.3	1.2	2.2	1.7	2.8	−2.2
Medical Care	6.6	11.4	1.1	3.0	2.7	3.4	1.3	2.3
Entertainment	4.6	1.1	2.3	2.6	0.3	4.6	0.2	2.4
Other Goods and Services	4.3	0.8	1.1	2.1	1.2	1.4	1.7	0.3

Source: Bureau of Business and Economic Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank.

TABLE 2
METROPOLITAN PHOENIX CONSUMER PRICE INDEX
Third Quarter, 1985
(1977 = 100)

Expenditure Category	*Last Qtr. Index*	*This Qtr. Index*	*Percent Change*	*Year-Ago Change*
ALL ITEMS	190.8	191.4	0.3	4.5
Food and Beverages	172.2	171.0	−0.7	3.2
Food	173.0	171.7	−0.8	3.3
Food at Home	170.6	168.7	−1.1	2.9
Cereal and Bakery Products	186.5	185.6	−0.5	7.6
Meats, Poultry, Fish, and Eggs	157.9	156.4	−1.0	−0.0
Dairy Products	160.1	160.9	0.5	4.4
Fruits and Vegetables	189.1	177.3	−6.3	−0.2
Other Food at Home	159.5	160.8	0.8	4.5
Food Away from Home	174.9	174.7	−0.1	4.2
Housing	197.7	202.0	2.2	4.6
Shelter	210.8	215.1	2.1	5.6
Renters' Costs**	114.4	116.1	1.5	6.4
Homeowners' Costs**	106.0	108.1	2.0	4.7
Fuel and Other Utilities	175.9	181.5	3.2	2.2
Gas (piped) & Electricity	195.7	206.2	5.4	2.5
Household Furnishings & Operations	150.7	153.0	1.5	3.6
Apparel and Upkeep	147.9	144.2	−2.5	3.1
Transportation	191.9	187.7	−2.2	4.5
Private Transportation	189.4	184.4	−2.7	4.9
New and Used Cars	194.1	193.9	−0.1	1.8
Motor Fuels	215.7	196.0	−9.1	4.4
Public Transportation	232.6	241.2	3.7	−0.2
Medical Care	251.4	257.2	2.3	10.1
Entertainment	180.4	184.7	2.4	7.6
Other Goods and Services	171.4	171.9	0.3	4.7

An ** indicates that the base period is second quarter, 1983.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank.

TABLE 3
METROPOLITAN PHOENIX CONSUMER PRICE INDEX UNITED STATES AND COMPARATIVE CITIES
Third Quarter, 1985

	Percent Change from Last Quarter		**Percent Change from One Year Ago**			
Expenditure Category	*Phoenix*	*United States*	*Phoenix*	*United States*	*Denver*	*San Diego*
ALL ITEMS	0.3	0.7	4.5	3.3	3.0	6.1
Food and Beverages	−0.7	0.3	3.2	1.6	2.0	1.9
Housing	2.2	1.3	4.6	3.9	2.2	9.5
Apparel and Upkeep	−2.5	0.0	3.1	2.6	5.7	4.5
Transportation	−2.2	−0.2	4.5	2.5	3.2	4.7
Medical Care	2.3	1.8	10.1	6.5	7.3	2.9
Entertainment	2.4	0.8	7.6	3.6	1.5	5.8
Other Goods and Services	0.3	1.1	4.7	6.1	5.0	6.9

Source: Metropolitan Phoenix data compiled by the Bureau of Business and Economic Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank; other data are from the U.S. Department of Labor, Bureau of Labor Statistics.

Purchasing Indicators Grow Moderately in September

Arizona's economic performance continued to improve in September, but at a moderate rate. Both new orders received from customers and production posted good gains. Yet vendor backlogs remain low, and inventories of purchased materials were reduced. Upward price pressures were noticeably absent.

The economy continued to move slowly upward during the first three quarters. While no vigorous growth was recorded, the rate of increase in the last month of the third quarter was better than at the beginning of the summer. Prices are well under control. The same measured growth should continue through the final quarter, and the 1985 economic year should close at a somewhat higher level than now is evident.

Table 1 presents the results of the September survey of Arizona purchasing managers.

PRICES

Prices paid for major purchased items advanced again in September, but at the same moderate rate as in August. With the exception of last May's increase, the September gain was the lowest of any month so far in 1985. Inflation has been held in check this year, a major factor in permitting the economic expansion to continue over almost three years. It is not likely that upward price pressures will be a problem during the balance of 1985.

DELIVERY TIME

Delivery time on shipments from vendors was unchanged. With the exception of last March, September was the first month since October 1982 in which delivery time did not stretch. The fact that order times have shown small increases during each month of 1985 is a sign that Arizona's economic growth this year has been only moderate.

INVENTORIES

Inventory levels of purchased materials dropped slightly in September, following the previous month's increase. May, June, and July also showed slight inventory reductions. The lack of inventory growth shows that Arizona firms continue to be cautious in their future plans. On the positive side, there is no inventory overhang, which might cause a major inventory-induced downturn.

NEW ORDERS

New orders received by Arizona firms went up in September, but at a somewhat smaller increase rate than in the preceding month. While new order gains, overall, have been moderate so far this year, the order books of Arizona firms have grown progressively larger as the year has unfolded. As long as this trend is maintained, the economy will continue in a growth mode.

PRODUCTION

Production rose again in September, at the same rate as in the previous month. While the production jump was lower than those of the first few months of 1985, it indicates that Arizona firms still are expanding.

EMPLOYMENT

Employment registered only a slight increase, the smallest this year. The September advance was much less than that of August. While employment levels have shown only moderate gains this year, each month has been stronger than the previous one, and no net employment declines have been experienced.

PURCHASES

Purchases of materials and supplies by Arizona firms increased at approximately the same rate as in August. These greater purchase quantities are needed to meet the requirements of the higher new order rate and production needs.

—Harold Fearon

Dr. Fearon is chairman of the Department of Purchasing, Transportation, Operations in the ASU College of Business and is the National Association of Purchasing Management Professor.

Arizona Purchasing Survey

Now in its 23rd year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity — higher, unchanged, or lower — of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

TABLE 1
SEPTEMBER PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (September compared to August)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	19	68	13
Delivery time from vendors	16	68	16
Purchased materials inventory level	29	40	31
New orders received	38	42	20
Production	34	48	18
Employment	22	59	19
Purchases	40	39	21

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

Arizona Leading Index Posts Third Straight Gain

The Arizona Index of Leading Economic Indicators rose 0.7 percent in August, the third consecutive large monthly gain. Following increases of 0.6 percent in July and 0.7 percent in June, the index reached a new peak of 106.5 in August (1977 = 100).

Improvement was widespread, not limited to the interest-rate-sensitive sectors that had provided much of the stimulus for the June and July surges (see Table 1). Improvement was measured in 80 percent of the components — the highest diffusion index in two years.

Index components derived from a survey of Arizona purchasing managers during August posted their greatest monthly gain in 10 years (seasonally adjusted). The purchasing managers reported large increases in new orders and in employment, supported by healthy gains in production, inventory levels and delivery time.

Among the other components, the national money supply (M2) rose rapidly for the fourth consecutive month; the number of initial unemployment insurance claims fell (a positive leading indicator); and the number of hours worked in the manufacturing industry increased.

The only component of the index that declined by more than a slight amount was residential building permits, but this followed a huge increase in July. The two-month net gain indicates that home building will remain at a fast pace during the fall.

OUTLOOK

The widespread gains in the Arizona index (see Figure I) paint a convincing picture of stronger economic growth through the remainder of 1985, following a year of erratic, frequently subpar activity. A recession is highly unlikely before next summer. However, the pattern of the index has been erratic since early 1984, and little progress has yet been made toward resolving the nation's underlying economic problems: the trade and budget deficits. Thus, it is too early to predict more than a temporary improvement in economic conditions; by 1986, the Arizona economy could again slow. The September survey of Arizona purchasing managers confirms that the improvement may be temporary. The seasonally adjusted results indicate stagnation similar to that through most of 1985.

The national Index of Leading Economic Indicators rose rapidly in August for the second straight month; the last decline in the index occurred in April. Thus, improved economic conditions are also likely nationally during the remainder of 1985.

— Tom R. Rex
Research Manager

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

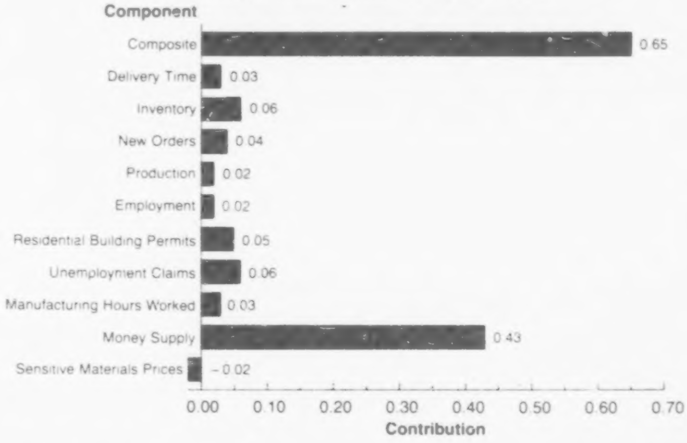
	Net Contribution+			
	May	*June*	*July*	*Aug.*
Delivery Time*	–.05	.05	–.06	.09
Inventory Levels*	–.15	.10	.03	.06
New Orders*	–.01	.04	–.04	.13
Production*	–.05	–.01	.01	.07
Employment*	–.02	.02	–.07	.11
Residential Building Permits	–.02	–.08	.60	–.37
Unemployment Insurance Claims	.01	.15	–.14	.16
Average Workweek, Manufacturing	–.19	–.04	.06	.07
Money Supply	.29	.54	.31	.44
Change in Sensitive Materials Prices	.10	.02	–.05	–.04
OVERALL INDEX	–.09	.79	.65	.72

+The net contribution of each component is calculated by multiplying the monthly change in its index by its relative importance.

*Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

FIGURE I
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS
Contribution, by Component
Average, June 1985—August 1985



Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date Value	Year-to-Date Percent Change from Year Ago
GROSS STATE PRODUCT (In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	1st Qtr.	43.948	11.1	10.5	NA	NA
Arizona - 1972 Dollars	1st Qtr.	21.010	4.5	7.5	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	3rd Qtr.	191.4	0.3	4.5	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	August	106.5	0.7	3.1	NA	NA
BUILDING PERMITS (Total Dollar Value in Thousands)						
Maricopa County	July	411,208	12	34	2,529,750	7
Pima County	July	74,869	26	42	480,674	0
Balance of State	July	64,337	1	28	405,501	2
Arizona	July	550,414	12	34	3,415,925	5
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	July	3,990	−17	−10	33,024	−17
Pima County	July	767	−20	−10	7,724	−22
Balance of State	July	1,234	−33	28	10,359	28
Arizona	July	5,991	−21	−4	51,107	−12
HOME SALES						
Maricopa County - Number	August	4,753	−19	18	36,306	−5
Maricopa County - Median Price	August	76,000	1.3	4.5	73,150	3.4
ELECTRICAL POWER SALES (In Millions of Kilowatt Hours)						
Arizona	August	3,905.9	−0.4	8.0	24,711.2	7.7

NA = Not Applicable.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

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BUREAU OF BUSINESS AND ECONOMIC RESEARCH

Economic Forecasts: Part II

Leading Index Used To Forecast Any 12-Month Period

The accuracy of economic forecasts and an alternative method of forecasting the Gross National Product (GNP) were examined in the August *Arizona Business*. This article elaborates on those topics.

FORECAST ACCURACY

The most common economic forecast presents calendar-year, annual-average data. While valuable, an annual average may disguise the course of economic events throughout the year because it may have been derived from any one of several assumptions. For example, a forecast of slow growth throughout the year could result in the same annual-average percent change in GNP as a prediction of moderate growth followed by a recession. Yet, the distinction between these forecasts would be important to the planning of business, government, and individuals.

Unfortunately, the accuracy of forecasting quarterly economic activity leaves much to be desired. Unless the forecaster has a persistent bias toward optimism or pessimism, large quarterly forecast errors tend to cancel each other out. The result can be a relatively accurate annual forecast despite imprecise predictions on the course of events throughout the year.

AN ALTERNATIVE

The method of forecasting annual change in the GNP from the national

See "Forecasts," page 2

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8 AZ Economic Indicators

GSP Growth Remains Inconsistent

The Arizona Gross State Product continued to expand at a relatively slow rate during second quarter 1985. Since the end of Arizona's rapid economic expansion during third quarter 1984, real adjusted GSP has grown inconsistently. The average annual rate of approximately 5.5 percent is also the long-term average. Adjusted GSP slowed during the second quarter to a 5.1 percent annualized rate from a revised first quarter rate of 8.4 percent (see Table 1).

Without adjustment for the wide fluctuations in the agriculture and mining sectors, real GSP has followed a more erratic course. Because of generally poor conditions in both mining and agriculture, growth in the unadjusted GSP has been slightly slower.

See "GSP," page 3

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"Forecasts," from page 1

Index of Leading Economic Indicators was discussed in the August issue only in the context of making a calendar-year forecast. However, this technique can be applied to forecast the annual average growth of any 12-month period. For example, a fiscal year (July to June) GNP forecast can be derived by calculating the percent change in the June leading index from the June index of the prior year. The April or May leading indexes could be used if an earlier forecast is desired.

Forecast Error/Adjustments

The average absolute error of 51 forecasts made quarterly since the end of 1971 was 1.0 percent; the median error, independent of sign, was just 0.7 percent. However, these errors can be further reduced because the largest are partially predictable; this forecasting technique is not as accurate at certain identifiable stages of the economic cycle.

GNP growth is usually underestimated by this method when the economy is beginning to recover from a recession, a result of large declines in the leading index that typically occur near the end of a recession. Even after the leading index has clearly signaled a recovery, these large declines remain a part of the 12-month percent change. The solution is to bump up the forecast by 1 to 1.5 percentage points when a recovery is indicated by the decision rule discussed on page 4. The upward modification should be made for three successive quarters, beginning with the quarter in which the trough in the leading index occurs. Because of the lag in recognizing the trough, some of this adjustment must be done retroactively.

A similar adjustment — but downward — must be made when the economy enters a recession. Initial declines in the leading index, indicating an upcoming recession, are usually small in magnitude. Thus, while the method predicts slower GNP growth, it underestimates the magnitude of the deceleration, again by 1 to 1.5 percentage points for three successive quarters, beginning with the quarter in which the leading index peaks.

Revisions

Users of this technique to forecast GNP also need to be aware of the numerous revisions to each month's leading index; the initial change may be substantial. The effect on the GNP forecast is relatively minor, however, because a revision to one month's index does not greatly affect the 12-month percent change. Further, the revision to the GNP forecast is of lesser magnitude than the correction to the leading index's 12-month percent change. The median absolute difference between the preliminary and final forecasts of GNP was just 0.3 percentage points for quarterly forecasts made since 1978. In only 2 of 27 quarters did the difference exceed one percentage point.

Recent Forecasts

The accuracy of forecasts made since the end of the last recession is detailed in Table 1. The large error in the forecast made from the September 1982 leading index could have been corrected since the leading index had already signaled the end of the recession. No subsequent error has exceeded 0.5 percentage points, indicating that the method accurately predicted both the rapid growth during 1983-84 and the ensuing slowdown.

Forecasts made from the December 1984 and March 1985 leading indexes appear to be too low, however — by approximately one percentage point — according to partial data available for the respective 12-month periods being forecast. The stagnation in the leading index throughout most of 1984 and early 1985 seems to have overexaggerated the slowdown of economic growth.

— **Tom R. Rex**
Research Manager

TABLE 1
GNP FORECAST FROM THE INDEX OF LEADING ECONOMIC INDICATORS

		Using Preliminary Value of Leading Index		Using Latest Value of Leading Index	
Month/Year of Leading Index[1]	*Actual GNP*[2]	*Forecast*	*Error*	*Forecast*	*Error*
September 1982	1.7%	0.9%	−0.8	0.2%	−1.5
December 1982	3.7	3.9	0.2	3.5	−0.2
March 1983	5.6	5.7	0.1	5.8	0.2
June 1983	6.7	6.3	−0.4	6.5	−0.2
September 1983	7.0	6.5	−0.5	6.5	−0.5
December 1983	6.8	6.4	−0.4	6.5	−0.3
March 1984	5.6	5.6	0.0	5.8	0.2
June 1984	4.2	4.7	0.5	4.6	0.4
September 1984	3.3	3.2	−0.1	3.5	0.2
December 1984	NA	1.8	NA	1.4	NA
March 1985	NA	0.9	NA	1.2	NA
June 1985	NA	1.9	NA	2.5	NA
September 1985	NA	3.1	NA	3.1	NA

NA: Not available — includes period not yet concluded.

[1] Preliminary value was available on the last day of the following month; e.g., one month into the 12-month period being forecast.

[2] Average percent change of the four quarters, beginning with the month subsequent to the month of the leading index.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University. The GNP and national leading index are from the U.S. Department of Commerce.

"GSP," from page 1

REVISIONS

Arizona GSP estimates are frequently revised, sometimes by substantial amounts. As illustrated in Figure 1, the magnitude of the first revision to the GSP was significant in four of the last six quarters. The latest estimate varies widely from the initially revised estimate in three of five quarters.

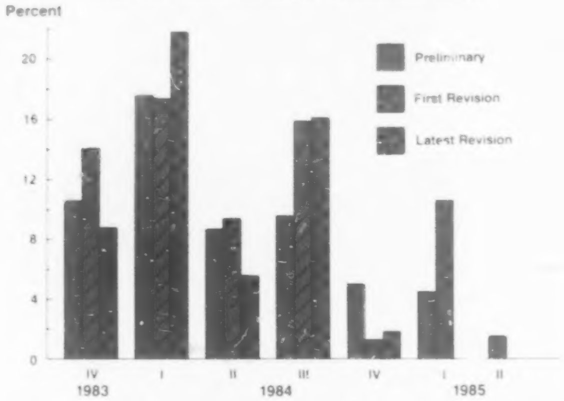
While various data series are included in the calculation of GSP, personal income carries the greatest weight and is most frequently and substantially revised. First quarter 1985 estimates of personal income, compiled by the U.S. Department of Commerce's Bureau of Economic Analysis, are shown in Figure II. (These percent changes are *not* annualized.) Although the preliminary estimates were not available until the end of July — four months after the end of the quarter — estimates for most sectors still were substantially revised three months later.

The largest revisions typically are made to the agriculture and mining estimates — part of the reason for omitting these sectors from the adjusted GSP. Figures for the services and trade sectors usually are reliable.

OUTLOOK

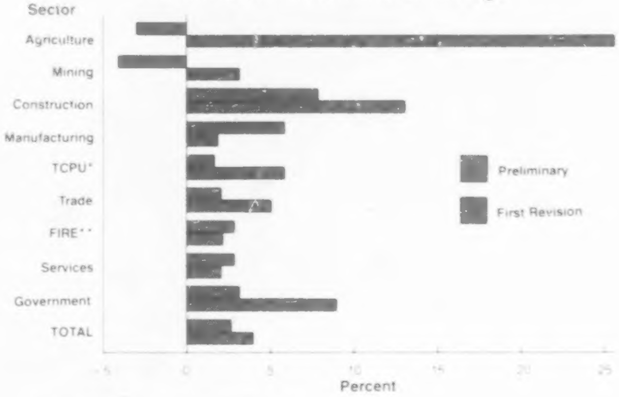
National economic growth improved during third quarter 1985, with GNP rising 3.3 percent, compared to gains of 0.3 percent and 2.0 percent in the

FIGURE I
ARIZONA GROSS STATE PRODUCT
Real Percent Change, at Annual Rate



Source: Bureau of Business and Economic Research, College of Business, Arizona State University

FIGURE II
ARIZONA PERSONAL INCOME
First Quarter 1985 Percent Change



*TCPU—Transportation, Communications, and Public Utilities
**FIRE—Finance, Insurance, and Real Estate
Source: U.S. Department of Commerce, Bureau of Economic Analysis

TABLE 1
QUARTERLY ECONOMIC GROWTH

	Arizona Gross State Product^r				Gross National Product
Quarter	*Billions of Current Dollars, Annualized*	*Billions of 1972 Dollars, Annualized*	*Annualized Percent Change (1972 Dollars)*	*Annualized Percent Change (Adjusted GSP)**	*Annualized Percent Change (1972 Dollars)*
First 1983	$33.756	$16.635	14.7%	18.6%	3.3%
Second 1983	35.558	17.472	20.1	22.6	9.4
Third 1983	37.183	18.121	14.9	13.3	6.8
Fourth 1983	38.159	18.522	8.8	5.3	5.9
First 1984	39.832	19.531	21.8	23.7	10.1
Second 1984	40.719	19.804	5.6	11.7	7.1
Third 1984	42.217	20.599	16.1	12.2	1.6
Fourth 1984	42.669	20.693	1.8	2.8	4.3
First 1985	44.615	21.242	10.6	8.4	0.3
Second 1985	45.139	21.324	1.5	5.1	2.0

*The adjusted GSP is the annualized GSP in billions of 1972 dollars, minus the contributions of the agriculture and mining industries.

^rAll GSP data have been revised due to revisions to personal income estimates by the U.S. Department of Commerce.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University; in cosponsorship with the ASU College of Business Dean's Council of 100.

two prior quarters. In conjunction with somewhat stronger gains in the national leading index, this GNP increase suggests that the slowest economic growth may have occurred during the first half of 1985. However, the expansion of GNP is likely to average only 3 percent, the long-term average, from fourth quarter 1985 through third quarter 1986. Because an erratic pattern probably will continue, periods of below average growth will recur.

A similar situation should prevail in Arizona. GSP growth should again exceed its long-term average during the second half of 1985 and into early 1986. However, the Arizona leading index suggests that the improvement will be modest and inconsistent.

— Tom R. Rex
Research Manager

Year-end Acknowledgments

Monthly publication of a data-based periodical such as *Arizona Business* reflects numerous and diverse behind-the-scenes efforts. As 1985 draws to a close, we would like to acknowledge the contributions of those individuals whose expertise, hard work and dedication have brought our readers current economic/real estate data and analysis over the past year.

Sandy Palais and Peter Luan, College of Business computer specialists, assist with many Bureau of Business and Economic Research projects. For example, Palais programmed the home appreciation study and the *Arizona Business* mailing list; she also prepares the computer-generated graphics that appear in each issue. Luan's programming efforts include the building permits and home sales studies.

Graduate research assistants collect and manipulate the data for several Bureau projects. Paul Umbriano assists with the Arizona leading index, the Gross State Product, and economic forecasting. Tom O'Connor is responsible for compiling the building permits. Barbara Connell and Carol Marlowe collect the many prices needed to calculate the Phoenix CPI.

The Bureau's administrative, secretarial and clerical staff keep the recently computerized mailing list updated; word process article manuscripts; proof galleys; and handle the bookkeeping. We extend special thanks to Ann Beard, Sylvia Jackson, Michal Craite and Anne Shepard.

The new *Arizona Business* cover design was creatively rendered by Kas Winters, president of Kasgraphics. On a monthly basis, typesetting, design and paste-up are performed by Watermark Graphics. Indian Graphics prints *Arizona Business*.

Thank you one and all!

—Lee R. McPheters
Bureau Director
—Mary Wery Garcia
Editor

Arizona Leading Index Slips in September

The Arizona Index of Leading Economic Indicators dropped sharply in September, following three consecutive large monthly gains (see Figure I). September's 0.4 percent decline pulled the index down to 106.0 from a revised 106.4 in August (1977 = 100).

Only 40 percent of the index components rose during September, led by a moderate gain in the national money supply (M2). Small increases were posted for residential building permits, average hours worked in the manufacturing sector, and sensitive materials prices (see Table 1).

Each of the five components derived from a survey of Arizona purchasing managers declined in September; the total decrease was the largest since April 1980, more than offsetting the substantial August increase. Two of these components, employment and delivery time, reached their lowest levels since the end of the 1982 recession.

The number of unemployment insurance claims rose in September (a negative leading indicator), reaching the highest level in two years. Arizona's unemployment rate has risen throughout 1985.

DECISION RULES

The primary use of a leading index is to signal turning points in the economy. Selection of an accurate decision rule, one used to interpret the leading index for this purpose, is of utmost importance. Much of the criticism levied against the national leading index is really opposed to the decision rule commonly applied: three consecutive monthly declines predict a recession. Such a simplistic rule is highly inaccurate.

A reasonably simple, yet precise, decision rule to apply to both the Arizona and national leading indexes was discussed in the August 1985 *Arizona Business*. (Basically, a turning point can be predicted if the index changes direction by at least 1.5 percent during a two-month-or-longer period.) An alternative decision rule was recently proposed by economists at the Federal Reserve Bank of New York. Their method, complex to calculate, is limited to predicting recessions. However, it has the advantage of producing a probabilistic assessment of the likelihood of a recession.

The new decision rule was applied to the Arizona index; its accuracy since 1970 has been virtually identical to that of the decision rule proposed by the Bureau of Business and Economic Research. The probability of a recession is typically less than 1 percent and rarely exceeds 10 percent. A probability of 90 percent has reliably signaled a recession, with a lead time of several months.

Since early 1984, when the Arizona index began to display an erratic pattern of little growth, the probability of a recession never reached 10 percent and frequently remained less than 1 percent. However, the large drop in September's index caused the probability of a recession beginning during the next few months to increase to 12 percent — still comfortably small.

OUTLOOK

The Arizona index has increased only slightly since December 1983, accurately signaling the slow economic growth that has persisted since late 1984. Most of the index's monthly changes have been slight; the number of declines has nearly matched the number of gains. Periods of larger advances in the index have resulted from isolated factors rather than from widespread, lasting improvements in its components.

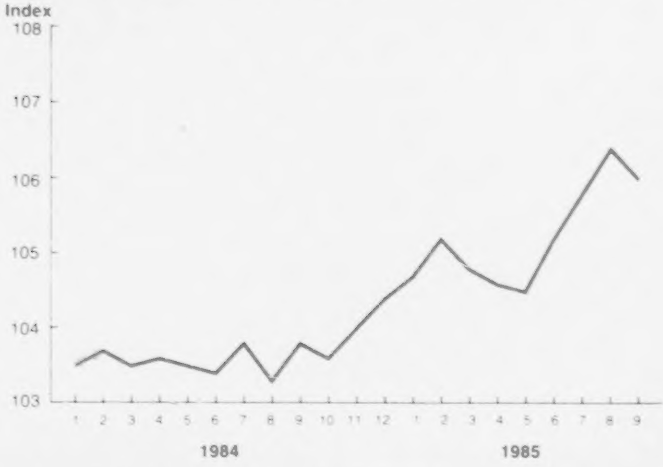
For example, the index increased moderately for four consecutive months in late 1984 and early 1985, but the acceleration was due only to large gains in the national money supply. Strong summer advances were also tied to specific factors: June's step-up was due to a substantial rise in the national money supply; July's boost came from a one-month response to lower interest rates by the housing sector; August's large rise, primarily caused by indicators derived from a survey of purchasing managers, was almost completely reversed in September.

Thus, the Arizona leading index indicates that slow economic growth will persist into 1986. Certain sectors of the economy will continue to experience temporary surges in activity, but a lasting, general recovery should not be expected during the next few months. Yet, the chance of a recession remains equally remote.

Nationally, the leading index barely rose in September, indicating that a lasting, widespread improvement in the national economy is also unlikely.

— **Tom R. Rex**
Research Manager

FIGURE I
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source: Bureau of Business and Economic Research, College of Business, Arizona State University

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution†			
	June	*July*	*Aug.*	*Sept.*
Delivery Time*	.05	−.06	.10	−.11
Inventory Levels*	.10	.03	.06	−.09
New Orders*	.04	−.04	.13	−.09
Production*	−.01	.01	.07	−.03
Employment*	.02	−.07	.12	−.15
Residential Building Permits	−.08	.59	−.37	.03
Unemployment Insurance Claims	.15	−.14	.16	−.21
Average Workweek, Manufacturing	−.04	.06	.02	.07
Money Supply	.42	.24	.35	.18
Change in Sensitive Materials Prices	.02	−.06	−.04	.01
OVERALL INDEX	.67	.56	.59	−.39

Net contributions for prior months have been revised.

†The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

*Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

Housing Affordability Index at Highest Level

Resale home affordability during third quarter 1985 reached the highest level since the Metropolitan Phoenix Housing Affordability Indexes began in 1981. The affordability of new homes nearly reached the early 1983 peak.

Housing became more affordable because of further declines in mortgage interest rates, which were at the lowest level since 1980. These declines more than offset continued modest gains in home prices.

A household with the median income of $2,580 per month earned 90 percent of the income needed to qualify, with a 15 percent downpayment, for a fixed-rate, conventional, 30-year mortgage on the median-priced ($75,000) resale home (see Table 1). This third quarter 1985 affordability index of 90 marked a substantial improvement over the 1981 low of 55, and it exceeded the second quarter 1985 index of 87.

Due to a higher median sales price ($83,575), the third quarter affordability index for new homes (81) was lower than that for resale homes. The affordability of new homes also rose more slowly than that of resale homes in recent quarters because new home prices increased at a more rapid rate. However, the new home index still improved from the second quarter level of 78; the low point was 49 in 1981.

Housing affordability in the Phoenix area slipped slightly lower than the national average, which was 91 for resale homes and 85 for new homes, because home prices did not rise as rapidly nationally during the third quarter.

Little change is likely in the affordability indexes during the next few months, due to stabilized mortgage rates and to the fact that prices and household incomes are rising at approximately the same rate.

— **Jacqueline Fifield**
Research Analyst

TABLE 1
HOUSING AFFORDABILITY INDEXES
Metropolitan Phoenix

Quarter	Median Sales Price	Interest Rate	Monthly Housing Payment	Median Gross Monthly Income	Affordability Index
Resale Homes					
3rd, 1985	$75,000	12.6%	$800	$2,580	90
2nd, 1985	72,500	13.4	820	2,560	87
3rd, 1984	73,000	14.8	910	2,490	76
New Homes					
3rd, 1985	$83,575	12.6%	$900	$2,580	81
2nd, 1985	81,150	13.4	920	2,560	78
3rd, 1984	79,250	14.8	990	2,490	70

Source: Bureau of Business and Economic Research and the Arizona Real Estate Institute, College of Business, Arizona State University. Interest rates are from the Federal Home Loan Bank Board *News*, and income figures are derived from the Annual Buying Survey in *Sales and Marketing Management*.

Valley Home Sales Reach Prior Peak

The number of homes sold in the Phoenix metropolitan area during the third quarter rose an additional 3 percent beyond the 37 percent gain of the second quarter (see Table 1). This increase came in response to further declines in mortgage interest rates during late May. The 15,316 sales nearly matched the 15,337 sales of second quarter 1984 — the highest level since this series began in 1981.

New home sales particularly benefited from the interest rate declines, surpassing by 19 percent the highest previous quarterly volume. In contrast, sales of existing townhouses and condominiums again declined; third quarter sales were 30 percent fewer than the peak level attained during 1981.

MEDIAN SALES PRICE AND APPRECIATION RATE

For the third consecutive quarter, the median price of all homes sold was 3.1 percent higher than in the same quarter of the prior year. However, the median price of resale townhouses and condominiums remained less than in the same quarter of the prior year, another sign of the slump in this housing segment. Since the median size of townhouses and condominiums sold during 1985 was slightly larger than in 1984, the decrease in price per square foot was even larger.

The third quarter appreciation rate for single family homes, 0.8 percent, remained in the 0.7 percent to 0.8 percent range for the 10th successive quarter.

— **Tom R. Rex**
Research Manager

TABLE 1
METROPOLITAN PHOENIX HOME SALES

	Single Family			Townhouse/Condominium			Grand
Third Quarter 1985	*Resale*	*New*	*Total*	*Resale*	*New*	*Total*	**Total**
Median sales price	$75,000	$83,575	$77,625	$61,400	$66,475	$64,000	$75,000
Percent change from:							
Second quarter 1985	3.4	3.0	3.6	−2.5	3.9	0.9	3.2
Third quarter 1984	2.7	5.5	3.5	−2.5	5.4	1.6	3.1
Number of sales	10,081	3,228	13,309	1,114	893	2,007	15,316
Percent change from:							
Second quarter 1985	1	27	6	−21	−2	−14	3
Third quarter 1984	8	35	13	−10	4	−4	11

Source: Bureau of Business and Economic Research, College of Business, Arizona State University; from data supplied by Marketron Services, Inc., Phoenix.

October Purchasing Indicators Slide Sideways

The Arizona economy registered modest growth, without showing any real vigor, in October. Conflicting signs were evident: inventories were being liquidated; delivery times lengthened; and new orders, production, employment, and purchases increased — all changes were small, however. There is almost no sign of inflationary pressures. In short, the state's economy slid sideways.

After a superlative performance in 1983 and most of 1984, economic growth has deteriorated steadily during 1985. Profits are under pressure, interest rates seem stuck at a level too high to stimulate a higher growth tempo, and the trade deficit balloons as imports continue at a record pace. Although the locomotive pretty much has lost its head of steam over the last half of the year, the Arizona economy now is nearing the end of its third year of growth. Sluggish growth likely will continue over the balance of the year and into 1986, unless a dramatic decrease in interest rates occurs; this would increase spending, reduce the value of the dollar, and stimulate exports. Even if interest rates are forced down, several months would pass before higher growth became evident.

Table 1 presents the results of the October survey of Arizona purchasing managers.

PRICES

Prices paid for major purchased items increased slightly in October, consistent with the previous five months, each of which showed only a minor upward movement. While the latter half of the year has seen a lower price-increase trend than the first half, the overall year-to-date inflation rate has been very low. This relative price stability is one of the key factors permitting the economy to expand over the past three years. While inflation likely will step up toward the end of 1985, it does not pose an immediate threat to orderly economic growth.

DELIVERY TIME

Delivery time on shipments from vendors stretched in October at the highest rate this year, following September's unchanged lead time. Delivery time stretch-outs have been small over all of 1985. The October increase shows that vendor economic activity is stepping up somewhat — a good sign.

INVENTORIES

Inventory levels of purchased materials dropped for the second consecutive month. Firms have liquidated inventory in five of the last ten months, and the level is now low enough that any sizable new order and production level increases will trigger inventory rebuilding. When Arizona business begins to restock, the economic tempo will improve.

NEW ORDERS

New orders received by Arizona firms went up in October, but the increase was much smaller than in August and September and the second-lowest this year. Order bookings do not show real strength as we enter the last quarter.

PRODUCTION

Production also rose in October, but at a lower rate than in September. The October and July increases were the smallest so far this year, a reflection of lackluster new order receipts.

EMPLOYMENT

Employment edged up at approximately the same modest rate as in September. Employment has not shown solid strength this year; however, an increase (often small) has been recorded for each of the past 10 months.

PURCHASES

Purchases of materials and supplies by Arizona firms were higher in October than in September. The increases in this indicator so far in 1985 have been well under those of 1984. Purchases will begin to increase only when order bookings get healthier.

— Harold Fearon

Dr. Fearon is chairman of the Department of Purchasing, Transportation, Operations in the ASU College of Business and is the National Association of Purchasing Management Professor.

TABLE 1
OCTOBER PURCHASING SURVEY

Key Indicators	**Percent of Purchasing Managers Indicating Each Response (October compared to September)** *Higher*	*Same*	*Lower*
Prices paid for major commodities	15	77	8
Delivery time from vendors	24	65	11
Purchased materials inventory level	28	37	35
New orders received	37	37	26
Production	33	44	23
Employment	23	58	19
Purchases	40	37	23

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

Arizona Purchasing Survey

Now in its 24th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity — higher, unchanged, or lower — of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date	
					Value	Percent Change from Year Ago
GROSS STATE PRODUCT (In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	2nd Qtr.	45.139	4.7	10.9	NA	NA
Arizona - 1972 Dollars	2nd Qtr.	21.324	1.5	7.7	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	3rd Qtr.	191.4	0.3	4.5	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	Sept.	106.0	– 0.4	2.1	NA	NA
BUILDING PERMITS (Total Dollar Value in Thousands)						
Maricopa County	August	361,223	– 12	3	2,890,973	6
Pima County	August	82,252	9	21	562,926	3
Balance of State	August	65,786	2	57	471,287	7
Arizona	August	509,261	– 7	10	3,925,186	6
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	August	5,249	31	6	38,273	– 14
Pima County	August	1,242	61	– 33	8,966	– 24
Balance of State	August	1,644	33	35	12,003	29
Arizona	August	8,135	35	1	59,242	– 10
HOME SALES						
Maricopa County - Number	Sept.	4,716	– 1	18	41,023	– 3
Maricopa County - Median Price	Sept.	75,000	– 1.3	2.9	73,250	3.3
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix - New Homes	3rd Qtr.	81	3.8	18.4	NA	NA
Metropolitan Phoenix - Resale Homes	3rd Qtr.	90	3.4	15.7	NA	NA
ELECTRICAL POWER SALES (In Millions of Kilowatt Hours)						
Arizona	Sept.	2,970.9	– 23.9	– 17.8	27,682.1	6.0

NA = Not Applicable.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

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ARIZONA STATE UNIVERSITY ■ COLLEGE OF BUSINESS
BUREAU OF BUSINESS AND ECONOMIC RESEARCH

Quarterly Economic Forecast Update

Moderate Growth Likely Through '86

Economic performance in 1986 is likely to be somewhat better than, but generally similar to, the erratic, slightly subpar activity that has characterized the nation's economy since the second half of 1984. This phase of slower growth has persisted for six quarters, equaling the length of the rapid expansion that followed the 1981-82 recession.

REVIEW AND OUTLOOK

This pattern is remarkably similar to the stereotypic expansion: an average length of three years, split almost equally between a fast-growth phase and a slow-growth period. A typical expansion erodes into a recession after approximately six quarters of slower growth; however, three times during the war years of the 1960s another rapid expansion followed the slow growth phase. Neither condition is likely during 1986.

The two longest peacetime expansions - each lasting between four and five years - followed the severe recession of the mid-1970s and the depression of the early 1930s, the two worst downturns in the last 60 years. The double recession of 1980-82 must also be placed in this severe downturn category. Thus, a clear precedent exists for the current expansion to last into 1987.

These lengthy expansions occurred because the severe downturns had

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Outlook from Leading Index Exceeds Bureau's

The Arizona Index of Leading Economic Indicators barely rose in October, following a large decline in September (see Figure I). October's 0.1 percent increase brought the index to 106.1 from 106.0 in September (1977 = 100).

Only five of the ten index components rose during October, another sign of mediocre economic performance. The two components that made the greatest contribution to the slim advance — unemployment insurance claims and delivery time — made similar negative contributions in September (see Table 1).

Changes in the other components were relatively small. The national

See "Leading Index," page 6

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placed the economy's growth far below its long-term trend. Because of the economy's cycle, long-term growth swings from above trend during expansions to below trend during recessions (see Figure I). At the end of 1985, the economy still had not attained its long-term trend, suggesting that further expansion is likely.

The economy's failure to yet reach its long-term trend, even after three years of expansion that included a year of the most rapid growth in 30 years (6.8 percent during 1984), is a result of unbalanced economic policies over the last 20 years. During this period, the nation's major economic issues have varied from inflation to large deficits, while the current problem is an unprecedented budget deficit that underlies an unheard-of trade deficit and very high real interest rates. These factors are responsible for the slow growth of the last six quarters. (While a slowdown from the rapid-growth phase was inevitable, the degree of the slide might otherwise not have been so steep.)

Progress has been made in recent months toward resolving these problems, with the effort to weaken the dollar and Congressional action to reduce the deficit. The former has lowered the dollar only to the level that precipitated the trade problems, and any effect on economic performance will be delayed. The latter has yet to produce a reduction large enough to have a significant impact on the economy. Thus, while promising for the long term, this progress is unlikely to have much effect on 1986 economic performance.

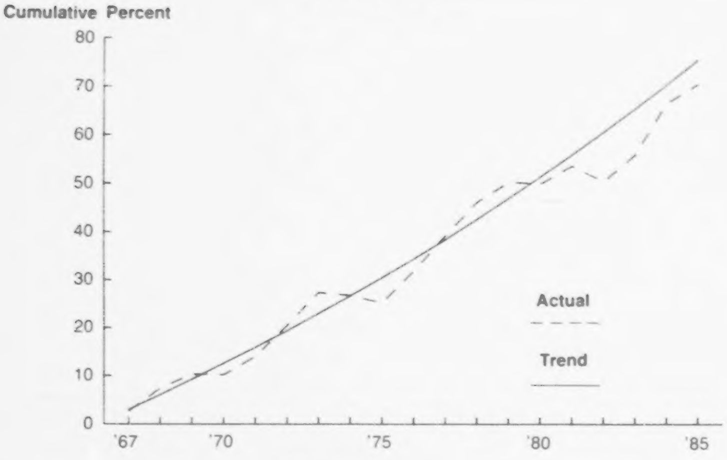
A Conflicting Indicator

Contradicting this forecast of average activity in 1986 is the year-over-year gain in the national Index of Leading Economic Indicators. In conjunction with strong advances in July and August and a revised increase in September, the October index suggests that economic growth during 1986 may be considerably stronger than in 1985 (see page 6). The stimulus apparently stems from the relatively loose monetary policy pursued throughout 1985, which led to rapid growth in the money supply (M1) and to falling interest rates. Because the impact of these conditions on economic growth is usually delayed, it is only now appearing.

If this acceleration in economic growth does occur, it likely will be followed by rising inflation. Interest rates are likely to rise as well. As a result, the probability of a recession during 1987 will be greatly enhanced.

The possibility of much-improved economic conditions has not been incorporated into the following forecast. Other indicators have not yet shown substantial improvement, and overriding economic problems remain. Having recently underestimated future economic growth (see the December *Arizona Business*), the leading index may currently be offsetting that error by overestimating future growth. In any case, GNP growth in 1986 should exceed the 2.4 percent rate of 1985.

FIGURE I
ACTUAL GROWTH IN GROSS NATIONAL PRODUCT COMPARED TO LONG-TERM TREND
(Since 1966)



Source: Bureau of Business and Economic Research, College of Business, Arizona State University

1986 NATIONAL FORECAST

Growth in the Gross National Product during 1986 should exceed that of 1985 because the very weak activity of the first half of 1985 should not be repeated. On the other hand, much more rapid growth should not be expected despite the sharp improvement in the third quarter 1985 GNP, which was merely an upward blip in the erratic quarterly pattern. In fact, second and third quarter GNP growth figures (1.9 percent and 4.3 percent) were nearly identical to those for third and fourth quarter 1984 (1.6 percent and 4.3 percent); these were succeeded by a 0.3 percent stagnation during first quarter 1985.

Control Forecast

As seen in Table 1, the annual average increase in both real GNP and in inflation is expected to be slightly higher in 1986 than in 1985. The unemployment rate will remain nearly steady although the "not-working ratio" (see page 13) will continue to decline. Economic growth is not expected either to slow or accelerate during the year, but the inflation rate is likely to increase slightly, as seen in the comparisons between the annual average and year-end percent changes.

Approximately 55 percent of the panel of the *Blue Chip Financial Forecasts* agree with this base forecast for 1985 of subpar-to-moderate growth, with little acceleration or deceleration. The erratic pattern of quarterly growth should continue, however.

Pessimistic Scenario

With no sign of an impending slowdown, this alternative assumes that economic performance will be similar to that of the control forecast during the first half of 1986. During the second half, however, the economy will slow toward a recession. Because the deviation from the base forecast will not occur until late in the year, the annual average percent changes of the control and pessimistic scenarios, shown in Table 1, are not significantly different. The year-end figures, however, show a greater spread.

This scenario assumes that little additional progress will be made toward solving the economy's problems. The "two-tier" economy finally breaks down as slower growth in other sectors of the economy can no longer offset the near-recessionary conditions of the production sectors: manufacturing, mining and agriculture. In particular, a reduction in consumer spending, a result of record-low savings rates and record-high consumer debt levels, causes a slowdown in the trade and services sectors. Construction also declines due to overbuilding and reduced demand for housing.

The *Blue Chip* panel sees two versions of this pessimistic scenario for 1986. Approximately 20 percent expect the moderate-to-strong growth of the first half to slip during the second half. Ten percent predict a recession during 1986.

Optimistic Scenario

With no clear sign of an improving economy, this scenario also assumes that conditions during early 1986 will be little different from those of the control forecast. To achieve stronger growth, forceful action must be taken to reduce the budget deficit. At the same time, the dollar must continue to steadily decline. If these conditions are accompanied by further declines in real interest rates, a new round of strong economic growth could ensue. Much of the economic improvement during 1986 would be a result of greater business and consumer confidence, since the true impact of such factors as a lower dollar would take more time to develop.

Only 15 percent of the *Blue Chip* panel expect such a strong economy throughout 1986.

1985 ARIZONA ECONOMY

Actual data continue to trickle in on the performance of the Arizona economy during 1985. Some of the projected numbers for 1985 in Tables 2 and 3 have, therefore, been revised slightly since the last forecast issued three months ago. That forecast was slightly more pessimistic than those that preceded it; the weaker economic conditions of late summer that triggered the pessimism turned out to be temporary. The ongoing forecast of moderate, erratic growth has been generally accurate.

Personal income data are both tardy and heavily revised; thus, an accurate projection for 1985 remains difficult to make, with only two still-to-be-revised quarters of actual data available. Nevertheless, it appears that personal income grew approximately 10 percent in 1985, following a 13 percent gain in 1984. Based largely on personal income, Gross State Product is also difficult to project. It probably expanded at approximately one-half the record 1984 pace, a rate above its long-term average. In contrast, GNP grew at a slower pace during 1985 than its long-term average, illustrating the relative vitality of the Arizona economy. Most of this superior performance can be traced to record in-migration (see page 8 for more detail).

These record population gains are partially responsible for the state's rising unemployment rate during early 1985, but the rate has since stabilized and is less than the national level. Employment gains have continued at a moderately rapid pace.

Additional good news is the third quarter Metropolitan Phoenix Consumer Price Index. Unexpected slowing caused a downward revision in inflation estimates.

Real Estate

The largest revisions to the 1985 projections were made to the real estate indicators. Further declines in mortgage interest rates have been a major boost to single family housing, resulting in approximately 2,500 additional permits statewide than previously expected.

Activity in the multifamily market has continued at a much stronger level than anticipated; the projection of 36,700 units permitted statewide during 1985 exceeds the prior estimate by more than 5,000 units. Record in-migration has helped to keep the apartment vacancy rate from soaring, but it was still higher in Maricopa County during the third quarter, on a seasonally adjusted basis, than at any time in more than

TABLE 1
FORECAST OF KEY NATIONAL INDICATORS

	Actual 1984	Projected 1985	1986 Forecast Scenarios		
			Control	Optimistic	Pessimistic
			Annual Average Percent		
Real Gross National Product	6.8	2.4	3.0	3.5	2.3
Consumer Price Index	4.3	3.4	4.0	4.3	3.4
Unemployment Rate	7.5	7.2	7.1	7.0	7.5
			Year-end Percent		
Real Gross National Product	5.7	2.1	3.0	3.9	1.5
Consumer Price Index	4.0	3.7	4.3	4.7	3.1
Unemployment Rate	7.1	7.1	7.1	6.8	7.9

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

TABLE 2
1986 ECONOMIC FORECAST: ARIZONA

	Actual	Projected	1986 Forecast Scenarios		
Gross State Product	1984	1985	*Control*	*Optimistic*	*Pessimistic*
Millions of 1972 Dollars	20,157	21,500	22,800	23,275	22,350
Percent Change	14.0	6.7	6.0	8.2	4.0
Personal Income					
Millions of Current Dollars	36,151	39,800	43,500	44,500	42,800
Percent Change	13.3	10.1	9.4	11.8	7.5
Retail Sales					
Millions of Current Dollars	19,399	21,350	23,150	23,700	22,625
Percent Change	11.6	10.0	8.5	11.0	6.0
Unemployment Rate					
Percent	5.0	6.3	6.9	6.3	7.5
Wage and Salary Employment					
Number in Thousands	1,181	1,260	1,329	1,355	1,310
Percent Change	9.6	6.7	5.5	7.5	4.0
Population					
Number in Thousands	3,091^E	3,226	3,350	3,360	3,340
Percent Change	4.2	4.4	3.8	4.2	3.5
New Single Family Housing Units Permitted					
Number	30,845	35,475	32,000	35,500	27,000
Percent Change	-0.3	15.0	-9.8	0.1	-23.9
New Multifamily Housing Units Permitted*					
Number	47,539	36,700	20,000	28,500	11,500
Percent Change	43.0	-22.8	-45.5	-22.3	-68.7
Value of Building Permits					
Millions of Current Dollars	5,262	5,700	5,000	5,900	3,950
Percent Change	44.0	8.3	-12.3	3.5	-30.7

E = Estimated
*Apartment complexes of three or more units
Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

15 years. Further, the rate is likely to climb higher: Newly finished units are not included in the statistics, and many units are still under construction, some taking longer than usual to complete. Since the ongoing construction of apartments is a result of tax laws rather than need, this sector will continue to be difficult to predict.

Most of the other construction sectors were also stronger in 1985 than expected, especially office buildings, so the projected dollar value of all building permits was revised substantially higher.

ARIZONA OUTLOOK FOR 1986

The control forecast remains much the same as in previous forecasts. Both personal income and GSP should grow on a quarter-to-quarter basis as in 1985; the arithmetic of calculating an annual average is responsible for the lower estimate of both indicators for 1986. (The year-over-year percent change is lower for the beginning of 1986 than it was in early 1985.) The 6.0 percent GSP forecast is still greater than the 5.5 percent long-term average and double the forecasted rate of the GNP.

Retail sales are not expected to increase quite as rapidly in 1986 as in 1985. A slower rise in consumer debt and an increase in the savings rate is likely. As usual, retail sales should expand slightly more rapidly in Maricopa County than in the remainder of Arizona.

Nearly stable, rather than rising, unemployment rates are expected during 1986 in Arizona, matching the national outlook. The number of new jobs created during 1986 is expected to nearly equal the 1985 number, a more optimistic prediction than in prior forecasts or by most other forecasters. The percent change in employment during expansions is typically quite similar to the percent change in real personal income: Wage and salary disbursements make up nearly two-thirds of personal income. With almost stable inflation rates and only a slight decline in the growth rate of personal income expected during 1985, a large slowdown in employment growth is inconsistent.

Increases in population are conservatively expected to slacken slightly during 1986 from the record levels of 1985. The state's higher unemployment rate should have a slightly depressing effect on in-migration.

Real Estate

Reflecting the strong 1985 conditions, the 1986 forecast for real estate has been revised up. More single family homes should be permitted during 1986 than previously expected, although the number should be less than in 1985. A typical seasonal pattern should prevail during 1986, accounting for the difference; the seasonal downturn in 1985 was avoided because of falling interest rates. The single family housing sector would enjoy its fourth consecutive solid year under the control forecast, its longest such period.

Multifamily construction will continue to decline during 1986, but the magnitude of the slide is uncertain due to potential changes in the tax code. The control forecast incorporates a sharp decline, but it is not as extreme as in prior forecasts, in recognition of continuous underestimates of this sector's activity.

The level of other commercial construction in 1986 is also uncertain, particularly of office buildings, which are in a situation much like that of apartments. The expected sharp drop in commercial construction will be tempered by only a small decline in residential construction and steady markets for industrial and other construction. The result will be a decline in the total value of building permits from the 1985 level, but a value much higher than in previous forecasts.

Maricopa County's share of all construction activity in Arizona should be slightly lower in 1986. The construction cycle in the Phoenix metropolitan area usually leads the cycle of the rest of the state.

Alternative Scenarios

With less uncertainty about economic events early in 1986, the range between the forecasts of the various scenarios is narrower than in the predictions issued three months ago. Only multifamily and other commercial construction remain highly uncertain because of the non-economic factors driving these sectors.

The relatively small difference between the optimistic and pessimistic scenarios during 1986 broadens considerably in 1987. In the pessimistic scenario, a recession is likely through at least the first half of 1987. Real GSP growth might be negative. In contrast, 1987 would be a boom year in the optimistic scenario, with real GSP approaching a 9 percent rise. Such boom conditions almost certainly would be short-lived, precipitating a recession in 1988.

The control scenario assumes that existing mediocre national conditions continue into 1987. It supposes that effective and sufficient attacks on the budget deficit do not materialize, at least by 1987. As the expansion ages, however, the probability of slow growth continuing without a recession lessens. The chance of a recession beginning in 1987 is substantial.

SUMMARY

The Arizona economy is unlikely to fall into a recession during 1986. Instead, another good, but not great, year should develop. Caution is advised, however, because the age of the expansion and the magnitude of the nation's economic imbalances make the economy fragile. It will be subject to action or inaction on political issues such as budget-cutting packages, protectionism and tax-code changes.

Looking ahead to 1987, only a major change in the nation's economic policies seems likely to prevent a downturn. By that time, the expansion will be one of the longest on record.

—Tom R. Rex
Research Manager

TABLE 3
1986 ECONOMIC FORECAST: MARICOPA COUNTY

	Actual 1984	Projected 1985	1986 Forecast Scenarios		
			Control	*Optimistic*	*Pessimistic*
Consumer Price Index					
Percent Change	5.8	5.3	5.4	5.8	5.0
Retail Sales					
Millions of Current Dollars	12,434	13,725	15,000	15,375	14,600
Percent Change	12.6	10.4	9.3	12.1	6.4
Unemployment Rate					
Percent	3.8	4.8	5.4	4.9	6.0
Wage and Salary Employment					
Number in Thousands	770	826	875	895	860
Percent Change	11.1	7.3	5.9	8.4	4.1
Population					
Number in Thousands	1,726^E	1,811	1,885	1,890	1,880
Percent Change	4.6	4.9	4.1	4.4	3.8
New Single Family Housing Units Permitted					
Number	20,774	25,075	22,000	25,000	19,000
Percent Change	-0.9	20.7	-12.3	-0.3	-24.2
New Multifamily Housing Units Permitted*					
Number	36,817	26,250	14,000	20,000	8,000
Percent Change	53.8	-28.7	-46.7	-23.8	-59.5
Value of Building Permits					
Millions of Current Dollars	3,811	4,225	3,575	4,300	2,850
Percent Change	54.3	10.9	-15.4	1.8	-32.5

E = Estimated
*Apartment complexes of three or more units
Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

"Leading Index," from page 1

money supply (M2) recorded an unusual decline, and Arizona residential building permits slipped from the high levels recorded since July.

OUTLOOK

Although the gain in October's index was slight, it was enough to reduce the chance of a recession beginning during the next several months to less than 5 percent. The index continues to signal neither a recession nor a vigorous expansion.

The Arizona index, however, has grown more during the first 10 months of 1985 (1.6 percent) than during all of 1984 (0.7 percent). Based only on the Arizona leading index, then, growth in the Arizona economy during 1986 should be stronger than in 1985. The 1985 forecast of Arizona Gross State Product derived from the leading index was 5.8 percent, while the 1986 forecast is 8.0 percent, but the margin of error in these estimates is a large two to three percentage points.

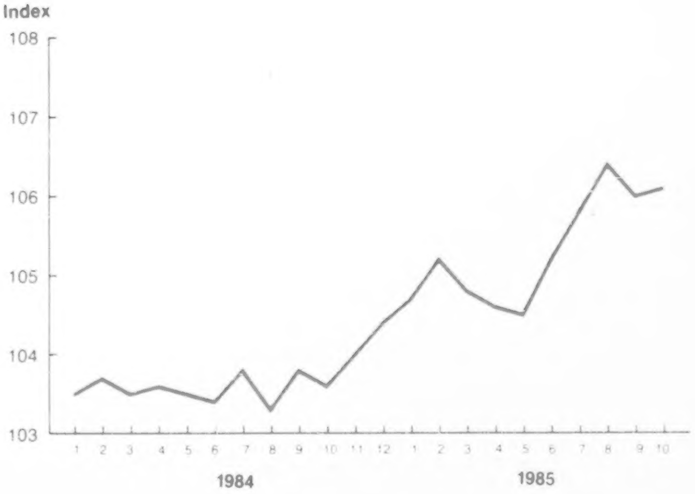
A first look at the November index leads to optimism, based on the five components derived from a survey of purchasing managers. While these components, on an unadjusted basis, indicate only a continuation of moderate economic growth (see page 15), the interpretation is more upbeat on a seasonally adjusted basis. Before adjustment, the components generally indicate slower conditions during November and December.

As a whole, these five components also rose moderately in October; the October-November gains are the strongest back-to-back since the summer of 1983. These components had slipped throughout 1984 and fluctuated around a flat trend line during the first nine months of 1985.

This stronger performance matches that of the national leading index, which rose for the sixth consecutive month in October. The October gain was a moderate 0.3 percent; the September increase was revised from a slight 0.1 percent to 0.4 percent. The early forecast of growth during 1986 in the Gross National Product, based on the national index, is 3.8 percent, sharply higher than indicated in prior months. Even if the index slips during November and December, 1986 GNP growth in excess of 3 percent will be indicated; further gains in the index could push the forecast past 4 percent.

— Tom R. Rex
Research Manager

FIGURE I
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source: Bureau of Business and Economic Research, College of Business, Arizona State University

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution[+]			
	July	*Aug.*	*Sept.*	*Oct.*
Delivery Time[*]	–.06	.10	–.11	.14
Inventory Levels[*]	.03	.06	–.09	.01
New Orders[*]	–.04	.13	–.09	–.01
Production[*]	.01	.07	–.03	–.05
Employment[*]	–.07	.12	–.15	.07
Residential Building Permits	.59	–.37	.03	–.16
Unemployment Insurance Claims	–.14	.16	–.21	.19
Average Workweek, Manufacturing	.06	.02	.07	–.08
Money Supply	.24	.35	.18	–.06
Change in Sensitive Materials Prices	–.05[r]	–.04	.01	.06
OVERALL INDEX	.57[r]	.59	–.39	.13

[r] Revised

[+] The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

[*] Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

'85 Index Available

An index to the 1985 issues of *Arizona Business* is available on request from the Bureau of Business and Economic Research by calling (602) 965-3961.

Council of 100 Optimistic on '86 Economy

The new year will bring a stronger national economy than experienced during 1985, according to a survey of the College of Business Dean's Council of 100. Council members are CEOs and executives at the senior level, primarily from firms in the metropolitan Phoenix area. They are polled at the beginning of the year and at midyear by the Bureau of Business and Economic Research.

Council members were asked to compare expected real economic growth nationally in 1986 with 1985, and during the next six months with the previous six months (Table 1). Responses were weighted, then averaged, so that calculated scores of 50 for any entry indicate no change is anticipated, scores of more than 50 reflect expectations for improvement, and scores of less than 50 indicate that worsening business conditions are expected.

Scores for the most recent survey reveal more optimism about 1986 (score of 62) than was shown in the summer survey (score of 47). The summer survey also indicated that the executives expected the second half of 1985 to be stronger economically (score of 53) than the first half of 1985. It is likely that, when the final data are analyzed, this expectation will prove to have been correct. The next six months are expected to bring an even better national economy (score of 63).

Council members widely expect the sales and revenues of their firms to increase during 1986, compared to 1985 (score of 92), and they foresee little evidence of difficulties during the next six months (score of 91).

Responding to the survey six months ago, 59 percent of Council members correctly anticipated the fall in interest rates during the second half of the year. Only 10 percent of respondents to the current survey expect the prime rate to rise during the next six months (Table 2). Opinion is almost evenly divided on whether rates will be higher, lower, or the same one year from now.

TABLE 1
ASU COUNCIL OF 100
ECONOMIC OUTLOOK SCORES*

	National Outlook		My Organization	
Outlook Period	*(12/85)*	*(6/85)*	*(12/85)*	*(6/85)*
1986 Compared to 1985	62	47	92	95
Next Six Months	63	53	91	76

*Council members had three reply options to each question: Higher, Same, or Lower. The score for each question was calculated by averaging the weighted replies. The weights: Higher - 100; Same - 50; Lower - 0. Scores may range from 0 to 100, with higher scores reflecting a greater degree of optimism. Scores near 50 indicate no change, scores above 50 indicate expected improvement, and scores below 50 indicate expected worsening of business conditions.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

TABLE 2
ASU COUNCIL OF 100
PROJECTIONS FOR ECONOMIC VARIABLES

	Percent of Council Members Indicating Each Response					
	In Six Months			In Twelve Months		
Variable	*Higher*	*Same*	*Lower*	*Higher*	*Same*	*Lower*
Prime Rate	10%	43%	48%	34%	32%	34%
Unemployment	26	48	26	36	33	31
Inflation Rate	24	67	10	60	29	12
Dow Jones IA	64	19	17	52	21	26

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

Similarly, 74 percent of Council respondents believe the unemployment rate will be the same or lower during the next six months. Opinion about unemployment one year from now is much more diverse.

A strong majority of Council members (67 percent) believe the inflation rate will stay stable during the next six months. The metropolitan Phoenix inflation rate during 1985 averaged approximately 5 percent. There is also very strong optimism about the stock market, with 64 percent believing that in six months the market will exceed the current 1500 range for the Dow Jones Industrials. Slightly more than one-half (52 percent) believe the market will be higher 12 months from today than at present.

Asked to project the year in which the national economy will again go into recession, nearly two-thirds of respondents (64 percent) believe that 1987 will bring the next major turning point in the business cycle. This figure represents an increase over the 51 percent in the summer survey who predicted a recession in 1987. While 19 percent of the respondents expect a recession later than 1987, 17 percent expect a recession sometime in 1986.

—Lee R. McPheters

Dr. McPheters is Professor of Economics in the ASU College of Business and Director of the Bureau of Business and Economic Research.

'85 Population Gain Sets Record

Arizona's population increased more between July 1, 1984, and June 30, 1985, than during any prior fiscal year (population estimates traditionally are made as of July 1). According to data from a new population model developed by the Bureau of Business and Economic Research, the 135,000-person increase exceeded the 125,000-person gain of the prior fiscal year; the previous record had been 121,000 in fiscal 1979.

ESTIMATING THE POPULATION

An accurate population count is generally available only once every 10 years - at the decennial census, last taken April 1, 1980. Between these censuses, the population must be estimated from other data, such as passenger car registrations or the size of the labor force. Several methods are commonly used, frequently resulting in widely different population estimates. For example, midyear 1985 assessments of the Arizona population, produced by local economists and demographers, vary by nearly 100,000 people. The Bureau's figure of 3,226,000 inhabitants is approximately midway between the two extremes.

The special census conducted during fall 1985 throughout Maricopa County probably will not resolve the differences in these estimates (a special census of the entire state is not available). Special censuses always present the danger of an undercount. The Bureau's estimate of the Maricopa County population on September 30, 1985, is 1,835,000.

In the study just completed, the Bureau selected two housing variables - occupied housing units and first-time electrical connections - to produce the population estimates. Mountain West Research collects these data quarterly for Maricopa County only. However, because Maricopa County encompasses such a large share of the state's population and because population trends in Maricopa County are similar to those in the rest of the state, the Arizona population can also be accurately assessed from Maricopa County housing data.

Population estimates are derived separately, both quarterly and annually, from occupied housing units and from first-time electrical connections. Each series exhibits a small but opposite bias in estimating population, which provides a cross-check in generating the final estimate. The number of first-time electrical connections tends to overstate population gains during recessions and other periods of rising vacancies; an offsetting underestimate occurs during economic recoveries. The change in the number of occupied housing units tends to understate population gains during recessions and overstate increases during recoveries. Such factors as job loss during recessions cause a small portion of the population to temporarily share the same housing unit.

POPULATION GROWTH PATTERNS

Most of Arizona's population gains derive from net in-migration, rather than from the net natural increase of births minus deaths. Since migration is highly cyclical, population gains are far from uniform. As seen in Table 1, population increases slightly lag the economic cycle. They are much smaller during years of economic recession and the period that immediately follows, exemplified by fiscal 1975 and 1976. Net in-migration to Arizona peaks late in an economic expansion - the case during fiscal 1979.

TABLE 1
STATE AND LOCAL POPULATION ESTIMATES
(On July 1)

	Total		Change		Percent Change	
Year	*Arizona*	*Maricopa Co.*	*Arizona*	*Maricopa Co.*	*Arizona*	*Maricopa Co.*
1970	1,795,000	979,800	—	—	—	—
1971	1,896,000	1,026,400	101,000	46,600	5.6%	4.8%
1972	2,009,000	1,087,200	113,000	60,800	5.9	5.9
1973	2,125,000	1,156,700	116.000	69,500	5.8	6.4
1974	2,224,000	1,217,400	99,000	60,700	4.7	5.2
1975	2,286,000	1,253,900	62,000	36,500	2.8	3.0
1976	2,348,000	1,280,000	62,000	26,100	2.7	2.1
1977	2,427,000	1,329,800	79,000	49,800	3.4	3.9
1978	2,518,000	1,388,900	91,000	59,100	3.7	4.4
1979	2,639,000	1,456,800	121,000	67,900	4.8	4.9
1980	2,735,000	1,519,000	96,000	62,200	3.6	4.3
1981	2,819,000	1,567,000	84,000	48,000	3.1	3.2
1982	2,891,000	1,607,000	72,000	40,000	2.6	2.6
1983	2,966,000	1,650,000	75,000	43,000	2.6	2.7
1984	3,091,000	1,726,000	125,000	76,000	4.2	4.6
1985	3,226,000	1,811,000	135,000	85,000	4.4	4.9

Source: Arizona Department of Economic Security (1970-79); Bureau of Business and Economic Research, College of Business, Arizona State University (1980-85).

This cyclicality largely results from changes in employment opportunities. During a recession, fewer jobs are available, and the chance of becoming unemployed is greater. Therefore, people postpone their moves. By the time a change in the economic cycle is perceived and people have prepared to migrate, a lag results.

Three successive subpar years, due to two economic recessions between 1980 and 1982, created a "pent-up demand" of people wishing to move to the Sunbelt; this resulted in Arizona's record population gains during fiscal 1984 and 1985. Despite these successive record years, the 98,000-person average annual population increase during the 1980s has barely exceeded the 94,000 average of the 1970s. No trend is apparent in the magnitude of net in-migration to Arizona.

Nearly 60 percent of the state's population gain occurs in Maricopa County. Growth in the Phoenix metropolitan area, on a percentage basis, is greater than that of Arizona as a whole only because of the state's larger population base.

OUTLOOK

Arizona population increases during the next several years probably will be comparable to those of 1970-85. No indications exist of impending significant changes in the birth rate, death rate, in-migration or out-migration. The aging of the baby boom generation raises the possibility of a slowing of in-migration during the 1980s, since a majority of migrants to Arizona are less than 40 years old. While senior citizens between 60 and 70 years old are also responsible for heavy net in-migration to Arizona, the number of people in this age bracket will not increase substantially until after the year 2000.

During the remainder of the 1980s, therefore, Arizona population flows will be dependent primarily on the economic cycle. A slight slowdown in net in-migration is likely during fiscal 1986 - a lagged response to the sluggish economy and the steep rise in the Arizona unemployment rate during the first half of 1985. However, no such slowdown was yet evident in the July-to-September period. As long as the economy doesn't slip into recession, population increases are unlikely to decelerate sharply.

—Tom R. Rex
Research Manager

Homebuyer Survey Reveals Lifestyle Considerations

The desire to own, not rent, is the primary reason why Phoenix area residents buy a home, according to a survey of 350 recent homebuyers by the Arizona Real Estate Institute in the College of Business at Arizona State University. This factor was highly important to 69 percent of the respondents, followed by wanting a better home (57 percent), wanting a better neighborhood (51 percent), and needing a larger home (45 percent).

Sponsored by Phoenix Magazine Publishing, Inc., the survey examined lifestyle as expressed both within the home and in the outside environment that encompasses status, style, reputation, linkages (retail, work, schools) and amenities. The factors considered least important were the need for a smaller home (86 percent), the desire to be closer to work (62 percent) and proximity to friends/relatives (68 percent).

DESIRED FEATURES

The survey confirmed that new home owners usually make changes to express their own lifestyles or interests. For instance, 71 percent of new home buyers purchased drapes ($1,000), in contrast to 22 percent of the resale home buyers surveyed ($400). Appliances were popular purchases, especially refrigerators, washing machines, and dryers. Probably due to the dual-income household, 23 percent of the new home buyers purchased a new car ($13,000), while 4 percent bought a used car ($4,500).

Most homebuyers have to make trade-offs of certain desired features relative to the home price or to other more desired features. For all of the survey respondents, the most desired feature was a large bedroom (suitable for a queen-size or king-size bedroom suite). Others included a fence, enclosed garage, eating area in the kitchen, and one bedroom per household member (in addition to the master bedroom). Features that tended to have low desirability included common recreational facilities, a formal dining area, and a solar heating system.

TOWNHOUSE/CONDO BUYERS

Since the townhouse/condominium sector represents a distinctly different potential lifestyle from that of the single family sector, buyers of the former were asked to indicate the relative importance of various reasons for making their purchase. Few differences existed between the resale and new home buyer groups. Less maintenance topped the list of reasons (72 percent), followed by preferred lifestyle (50 percent), common area facilities (42 percent), better security (39 percent), and the best way to buy a first home (35 percent).

The respondents were asked whether they would again buy a townhouse/condominium home. No definite pattern was established, with 38 percent saying they would buy another, 32 percent indicating they would not, and 30 percent undecided. The leading reason for not buying another townhouse/condominium was a preference for single family detached homes (70 percent). Other reasons included poor construction (50 percent), loss of privacy (40 percent), problems with the homeowners' association (50 percent), and poor maintenance of the common area (50 percent).

—Jay Q. Butler

Dr. Butler is Associate Professor of Real Estate in the College of Business, Arizona State University. He also serves as Director of the Arizona Real Estate Institute.

Third Quarter Construction Activity Strong in All Sectors

The Arizona construction industry continued during third quarter 1985 to exceed the expectations of a year ago with 28,028 permits, valued at $1.5 billion, recorded. Like the first and second quarters, the third quarter showed improvement over the one before. Through the third quarter, a total of $4.4 billion in new construction activity was permitted, in contrast to $4 billion for the same period of 1984. If activity were to continue on this track for the remainder of 1985, it would be the third consecutive year of improvement, a new record.

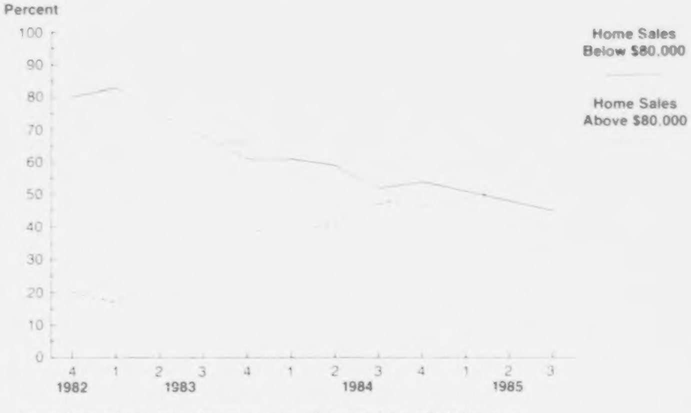
As shown in the accompanying tables, third quarter activity was strong in all sectors. Maricopa County continued to predominate with 16,838 permits, valued at $1.1 billion — 73 percent of all recorded activity. Through third quarter 1985, construction activity worth $3.2 billion was authorized, compared to $2.9 billion for the first three quarters of 1984. With $212 million of permitted activity for the third quarter, Pima County registered 14 percent of the total. The county's three-quarter total of $617 million contrasted with $582 million for the first three quarters of 1984. Based on total dollar value of issued permits, Table 4 presents the 12 most active reporting units, which represent 87 percent ($1.3 billion) of all Arizona construction for the third quarter.

SECTORAL ACTIVITY

Residential

Until recently, the single family sector has not been a leading sector of construction activity. Stimulated by lower mortgage interest rates, however, it has begun to regain its importance. With a state total of 8,905 single family permits recorded in the third quarter, 26,859 homes have been authorized. As a result, 1985 is well on its way to becoming the best year since 1979, when 35,477 permits were issued.

FIGURE I
SALES ACTIVITY: NEW SINGLE FAMILY HOMES PRICED BELOW $80,000 vs. ABOVE $80,000
(Maricopa County, 1982-85)



Source: Arizona Real Estate Institute, College of Business, Arizona State University

TABLE 1
KEY SECTOR CONSTRUCTION ACTIVITY
(Third Quarter 1985, Second Quarter 1985 and Third Quarter 1984)

			COMMERCIAL							
	SINGLE FAMILY		APARTMENTS[a]		OFFICE BUILDINGS[b]		RETAIL STORES[c]		INDUSTRIAL	
	Number of Permits	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*
Maricopa County										
Third Quarter 1985	6,274	435,941,193	376	176,079,383	124	91,485,756	275	65,232,553	171	115,423,175
Second Quarter 1985	6,332	424,502,020	370	153,852,226	128	167,890,636	258	80,417,322	133	35,206,401
Third Quarter 1984	4,626	312,765,251	517	176,245,746	96	118,924,753	207	29,689,100	183	78,747,547
Pima County										
Third Quarter 1985	1,121	67,695,415	55	35,886,630	30	49,225,503	21	4,878,165	16	5,306,200
Second Quarter 1985	1,145	71,052,603	32	38,431,650	30	11,068,023	21	4,259,720	11	19,487,420
Third Quarter 1984	885	53,237,603	63	34,778,291	22	10,040,262	12	2,841,930	26	6,579,358
Rest of Arizona										
Third Quarter 1985	1,510	73,535,988	72	28,537,404	43	5,533,570	79	6,348,235	31	9,038,026
Second Quarter 1985	1,924	84,479,812	62	26,817,026	46	3,648,513	94	6,717,111	47	18,490,020
Third Quarter 1984	1,362	63,643,095	29	7,001,471	50	4,414,228	66	7,864,426	27	4,443,907
Arizona Total										
Third Quarter 1985	8,905	577,172,596	503	240,503,417	197	146,244,829	375	76,458,953	218	129,767,401
Second Quarter 1985	9,401	580,034,435	464	219,100,902	204	182,607,172	373	91,394,153	191	73,183,841
Third Quarter 1984	6,873	429,645,949	609	218,025,508	168	133,379,243	285	40,395,456	236	89,770,812

[a] Five or more housing units.

[b] Office, bank, medical, and professional buildings.

[c] Shopping centers and other mercantile buildings.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

Maricopa County recorded 6,274 single family permits, for a year-to-date total of 18,883. If this sector should continue at its current level, it will have the best year since 1978's record of 30,479 permits. Although the number of single family permits declined in the third quarter, total dollar value rose to $436 million from the second quarter level of $425 million. This movement represents increased construction of more expensive homes. Figure I shows that sales activity for $80,000-and-up homes has appreciably improved as the move-up buyer has become a stronger market force. As shown in Table 1, the single family sector also posted declines in Pima County and in the non-metropolitan counties.

Although these levels of single family activity exceed those of the last several years, some had hoped for even greater improvement, given the much lower interest rates. Such expectations, however, failed to recognize that two years of solid activity had alleviated most of the pent-up demand; that consumers had already taken on significant debt burdens during more than two years of economic expansion; and that housing in the 1980s cannot be equated to housing in the 1970s, when low interest rates and rapid housing appreciation greatly stimulated home sales. Basically, it appears that lower rates had the fundamental impact during 1985 of sustaining the housing market, rather than dramatically improving it.

Commercial

Throughout 1985, there was much-publicized concern about the strength of the office building sector in Maricopa County. However, construction activity continued at a high level in the third quarter, with project permits valued at $91 million. The year-to-date total of $335 million is comparable to the $350 million recorded for all of 1984. In Pima County, the office building sector achieved a record quarter, with $49 million in permits issued. Leading the activity was a permit worth $21 million for the 21-story United Bank Tower in Tucson. This sector also improved in the non-metropolitan counties, moving to a third quarter permit value of $5.5 million from $3.6 million in the second quarter, an average value of $128,000.

In Maricopa County, the multifamily sector declined slightly to 5,921 authorized units, from the 5,955 units of the second quarter. With a year-to-date total of 20,286 units, 1985 will be the second-best year recorded, staying well below the 30,284 units authorized in 1984. Although the number of permitted units declined in the third quarter, the dollar value increased appreciably to $176 million from $154 million in the second quarter. This situation reflects the development of larger units with amenities that are more competitive with other projects and with the growing single family market. The multifamily sector also declined in Pima County to 1,232 units from 1,422 units.

The multifamily sector also declined in the non-metropolitan counties to 1,082 units from 1,630 units in the second quarter, but the year-to-date total of 4,156 units is already a record level of activity; only 1,500 units were permitted during all of 1984. For the third quarter, the leading areas of activity were the cities of Yuma (416 units) and Casa Grande (488 units).

TABLE 2
ARIZONA HOUSING UNITS AUTHORIZED
Third Quarter 1985

	One Family	*Mobile Homes*	*Duplex*	*3-4 Family*	*5 or More*	*Total*
APACHE COUNTY	23	17	0	0	0	40
Percent Change, Previous Year	−50	21	0	0	—	−33
Percent Change, Previous Quarter	−36	30	0	0	—	−18
COCHISE COUNTY	93	85	0	0	20	198
Percent Change, Previous Year	25	−10	—	0	122	11
Percent Change, Previous Quarter	1	7	—	0	−96	−73
COCONINO COUNTY	265	147	8	0	0	420
Percent Change, Previous Year	11	24	−76	—	—	4
Percent Change, Previous Quarter	21	−7	−33	—	—	−46
GILA COUNTY	89	31	0	4	8	132
Percent Change, Previous Year	15	−53	0	—	−87	−35
Percent Change, Previous Quarter	−26	−58	—	0	−75	−44
GRAHAM COUNTY	20	48	0	4	0	72
Percent Change, Previous Year	−13	45	0	0	0	19
Percent Change, Previous Quarter	11	41	0	—	0	38
GREENLEE COUNTY	1	0	0	0	0	1
Percent Change, Previous Year	0	—	0	0	0	−66
Percent Change, Previous Quarter	—	—	0	0	0	—
LA PAZ COUNTY	4	38	0	0	0	42
Percent Change, Previous Year	33	15	—	—	—	16
Percent Change, Previous Quarter	0	0	—	—	—	0
MARICOPA COUNTY	6,274	521	152	230	5,921	13,098
Percent Change, Previous Year	35	53	22	−51	−20	0
Percent Change, Previous Quarter	0	10	−8	−31	0	−1
MOHAVE COUNTY	177	412	2	3	34	628
Percent Change, Previous Year	−1	18	−93	−91	3	0
Percent Change, Previous Quarter	−53	1	0	−96	−2	−30
NAVAJO COUNTY	174	150	2	0	24	350
Percent Change, Previous Year	−3	206	−75	—	—	45
Percent Change, Previous Quarter	−48	89	—	—	—	−16
PIMA COUNTY	1,121	567	48	30	1,232	2,998
Percent Change, Previous Year	26	12	−25	15	−32	−9
Percent Change, Previous Quarter	−2	−2	−29	−44	−13	−8
PINAL COUNTY	106	189	26	28	520	869
Percent Change, Previous Year	58	−1	—	75	306	116
Percent Change, Previous Quarter	−16	−12	550	39	50	22
SANTA CRUZ COUNTY	27	51	0	3	0	81
Percent Change, Previous Year	0	2,450	—	—	—	179
Percent Change, Previous Quarter	−3	131	—	—	—	61
YAVAPAI COUNTY	368	329	20	57	54	828
Percent Change, Previous Year	21	67	0	119	−20	34
Percent Change, Previous Quarter	−9	53	−16	32	−61	0
YUMA COUNTY	163	112	2	22	422	721
Percent Change, Previous Year	40	−1	−50	266	580	138
Percent Change, Previous Quarter	23	−19	—	−67	229	54
TOTAL, ARIZONA	8,905	2,697	260	381	8,235	20,478
Percent Change, Previous Year	30	27	−9	−37	−14	5
Percent Change, Previous Quarter	−5	6	−7	−38	−8	−6

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

Although the retail sector in Maricopa County posted a decline, dropping to $65 million from $80 million, a total of $208 million in new retail projects was permitted through third quarter 1985. This dollar value already exceeds the level of activity for all of 1984 ($168 million). The new record was achieved through development of convenience and neighborhood shopping centers, not larger centers such as regional malls. Retail activity increased slightly in Pima County (to $4.9 million from $4.3 million), while it declined in the non-metropolitan counties (to $6.2 million from $6.7 million).

Industrial

Industrial activity in Maricopa County established a quarterly record with permits valued at $115 million. The year-to-date total for this sector is $241 million, which is greater than in 1984 ($224 million), the previous record year. A single permit, however, issued in Mesa to the McDonnell-Douglas Helicopter Corp. accounted for more than $50 million of the reported activity. In Pima County, industrial activity declined to $5 million from $19 million in the second quarter. The non-metropolitan counties followed a similar pattern (to $9 million from $18 million). The cities of Yuma (3 permits at $2.1 million) and Casa Grande (4 permits at $1.7 million) and the Kingman area (2 per-

TABLE 3
ARIZONA BUILDING PERMITS
Third Quarter 1985

	Residential*		Commercial		Industrial		Other		Total	
	Number of Permits	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*
APACHE COUNTY	56	1,163,613	3	162,874	0	0	4	3,000	63	1,329,487
Percent Change, Previous Year	−18	1	0	150	0	0	−66	−96	−25	2
Percent Change, Previous Qtr.	−12	−31	0	1,229	0	0	−42	−85	−14	−22
COCHISE COUNTY	318	6,416,244	11	7,557,240	4	258,124	349	4,818,833	682	19,050,441
Percent Change, Previous Year	19	23	−52	114	—	—	14	262	14	89
Percent Change, Previous Qtr.	21	6	−44	−17	300	771	−12	−2	0	−5
COCONINO COUNTY	665	17,796,820	8	2,759,741	4	541,655	160	10,096,745	837	31,194,961
Percent Change, Previous Year	20	11	−67	157	−59	−80	33	403	18	42
Percent Change, Previous Qtr.	14	12	−78	−61	−42	96	11	690	9	27
GILA COUNTY	237	4,696,629	10	1,331,029	1	15,000	40	1,167,857	288	7,210,515
Percent Change, Previous Year	−5	10	−23	−24	−75	−31	11	50	−4	5
Percent Change, Previous Qtr.	−24	−30	−41	−4	−87	−95	−31	−25	−27	−28
GRAHAM COUNTY	128	1,672,166	10	137,300	1	83,000	25	2,815,400	164	4,707,866
Percent Change, Previous Year	29	16	−28	−75	0	1,744	47	382	25	81
Percent Change, Previous Qtr.	15	21	−16	−16	—	—	−16	2,616	7	186
GREENLEE COUNTY	1	15,000	0	0	0	0	2	8,200	3	23,200
Percent Change, Previous Year	−75	9	0	0	0	0	—	—	−25	68
Percent Change, Previous Qtr.	0	500	0	0	0	0	—	—	200	827
LA PAZ COUNTY	60	770,072	3	276,558	0	0	41	319,051	104	1,365,681
Percent Change, Previous Year	1	−9	200	2,204	—	—	86	164	25	34
Percent Change, Previous Qtr.	−3	−16	−39	92	—	—	−38	−47	−22	−19
MARICOPA COUNTY	8,708	459,036,277	892	388,574,844	171	115,423,175	7,067	136,123,518	16,838	1,099,157,814
Percent Change, Previous Year	33	39	−27	−1	−6	46	16	19	20	19
Percent Change, Previous Qtr.	−2	2	−2	−10	29	227	−11	−19	−6	1
MOHAVE COUNTY	805	11,576,825	57	3,003,740	4	1,577,375	412	1,508,636	1,278	17,666,576
Percent Change, Previous Year	5	−21	0	−44	300	294	−27	−31	−8	−22
Percent Change, Previous Qtr.	−24	−33	−65	−71	−19	466	−34	−33	−31	−42
NAVAJO COUNTY	476	6,985,147	12	1,123,188	1	69,720	104	739,365	593	8,917,420
Percent Change, Previous Year	20	−16	−14	−18	—	—	103	−53	29	−21
Percent Change, Previous Qtr.	−17	−40	−7	184	−50	33	0	−13	−14	−32
PIMA COUNTY	2,858	73,787,191	123	100,195,409	16	5,306,200	1,538	32,431,086	4,535	211,719,886
Percent Change, Previous Year	37	24	−14	65	−38	−19	−10	3	14	34
Percent Change, Previous Qtr.	12	−11	19	50	45	−72	−20	−3	−1	4
PINAL COUNTY	394	7,873,797	60	18,158,155	4	1,671,454	340	2,609,365	798	30,312,771
Percent Change, Previous Year	20	105	139	441	33	5,471	58	33	40	230
Percent Change, Previous Qtr.	−14	−1	87	114	−50	−89	39	61	7	−9
SANTA CRUZ COUNTY	78	1,391,831	1	60,000	1	706,000	4	20,785	84	2,178,616
Percent Change, Previous Year	129	0	—	—	0	101	−59	−94	86	8
Percent Change, Previous Qtr.	50	−6	—	—	—	—	−19	45	47	45
YAVAPAI COUNTY	900	24,785,090	49	13,838,579	6	1,229,468	282	4,943,456	1,237	44,796,593
Percent Change, Previous Year	23	17	16	100	200	814	−14	1	12	35
Percent Change, Previous Qtr.	10	−12	2	45	19	89	0	105	7	9
YUMA COUNTY	335	11,993,494	69	16,856,198	5	2,886,230	115	5,659,770	524	37,395,692
Percent Change, Previous Year	15	28	165	265	25	325	14	72	24	109
Percent Change, Previous Qtr.	−14	13	32	199	−50	119	−17	240	−11	95
TOTAL, ARIZONA	16,019	629,960,196	1,308	554,034,855	218	129,767,401	10,483	203,265,067	28,026	1,517,027,519
Percent Change, Previous Year	28	32	−19	14	−7	44	9	23	17	24
Percent Change, Previous Qtr.	−1	−1	−7	0	14	77	−13	−7	−6	2

*Includes mobile homes.

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

mits at $1.1 million) led industrial activity in the non-metropolitan counties.

Other

This sector consists of several types of permitted activity such as schools and health care facilities. Permits for the construction of new educational facilities in the state were valued at $25 million in the third quarter, well down from the $46 million recorded in the second quarter. The three-quarter total of $91 million, however, greatly exceeds the $39 million recorded for all of 1984. Leading areas of third quarter activity included Flagstaff (5 permits at $7 million), Chandler (1 permit at $2.7 million) and Tucson (2 permits at $2.5 million).

With $20 million of permitted activity in the third quarter, health care facilities have a year-to-date total of $44 million, down from the $98 million recorded for the same period of 1984. More than $12 million of the quarterly activity occurred in non-metropolitan counties, including areas such as Sierra Vista (3 permits at $2.5 million), Safford (2 permits at $2.7 million), Prescott (2 permits at $2.5 million), and Yuma (1 permit at $2.5 million).

LOOKING AHEAD

Through third quarter 1985, practically every construction sector neared or exceeded record levels of activity. The construction industry has been stimulated by strong economic growth, declining interest rates, and record population growth. Given the spectacular nature of activity in 1985, concern exists about what to expect in 1986.

Multifamily and office building projects have led much of the current activity. These sectors are expected to slow in 1986 as the market works to absorb all of the new space, and developers judge the strength of the market. Because a couple of major office projects have start dates in early 1986, this sector could exhibit strong activity during the first part of the year. The retail sector should continue at a fairly strong pace to provide needed space in new residential areas. The main limitation appears to be the desire of retailers to occupy the new space.

The record industrial activity has been due primarily to the development of single-user, large-scale projects. If the economy should continue to grow, the industrial sector has potential for further expansion in 1986. Due to lower interest rates and recent population growth, the single family sector should have a good year, though slightly below the level of 1985. Even with an expected decline, the housing industry should post its fourth consecutive year of consistent activity, which is very unusual for the industry.

Construction activity is closely related to the strength and direction of the economy, and expectations are that the economy will grow, but at a slower pace. Given this expectation and the record levels of current construction activity, no single sector should dominate; combined, they should produce a very favorable level of activity in 1986. The year should begin on a strong note, building on the current level; however, due to the slow economy, construction activity should diminish as the year continues, finishing 1986 at a slower pace.

TABLE 4
REPORTING UNITS WITH GREATEST TOTAL VALUE OF BUILDING PERMITS
Third Quarter, 1985

Reporting Unit	**Value** *(In Millions)*
Phoenix	$345.6
Mesa	216.5
Scottsdale	164.6
Tucson	117.5
Tempe	102.7
Unincorporated Pima County	93.0
Chandler	77.9
Unincorporated Maricopa County	69.5
Glendale	60.6
Unincorporated Yavapai County	28.4
Yuma	26.2
Peoria	21.7

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

—Jay Q. Butler

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Alternative Employment Measures

"Not-Working Ratio" May Better Gauge Economic Health

The unemployment rate has long been used as a measure of economic health. Changes in the behavior of this indicator since the late 1960s, however, necessitate searching for alternative measures.

The cyclical nature of the unemployment rate - typically, it begins to rise prior to the onset of a recession and commences to decline at, or shortly after, the start of a recovery - remains its main value. In addition, for many years, "full employment" was defined as 3 to 4 percent unemployment; a higher rate indicated the economy was not at full strength.

Since the late 1960s, however, the unemployment rate has trended up, barely dipping below 6 percent during the last 10 years. In the current economic cycle, the rate has remained mired at 7 percent or more.

By historical standards, even those of the last 10 years, the current rate indicates an economy with considerable slack; a labor shortage, which brings on rising wages and inflation as well as production bottlenecks, seems nowhere in sight. The rising trend of the rate, in conjunction with other economic indicators, places this conclusion in doubt.

EMPLOYMENT-POPULATION RATIO

Alternative employment measures help to resolve this confusion. In addition to the unemployment rate, the U.S. Department of Labor publishes an employment-population ratio: the number of people employed divided by working-age population. This ratio is also cyclical, but its trend has been opposite that of the unemployment rate. Since the mid-1960s, the proportion of the population that is working has risen, largely because of the increasing labor force participation rate of females. This creation of proportionately more jobs each economic cycle indicates an increasingly vibrant economy; in contrast, the rising unemployment rate suggests a weakening economy.

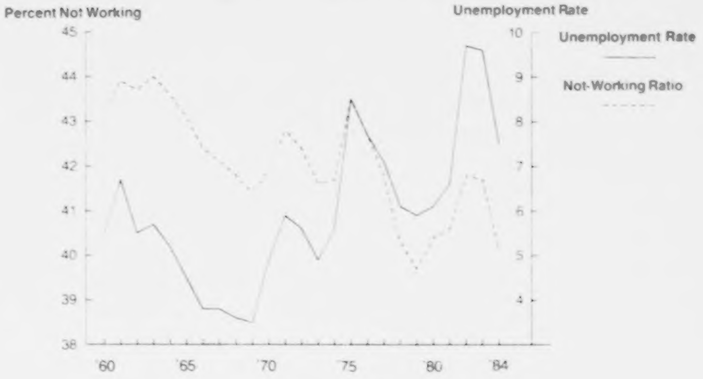
NOT-WORKING RATIO

Another way to express the employment-population ratio is the proportion of the working-age population not at work. This measure has two specific components - the unemployed and those not in the work force. Thus, in one cyclical measure, both employment and unemployment are counted. Further, "discouraged workers" (those who would like to work but have dropped out of the labor force) are automatically included in the not-working ratio; the exclusion of these people has been a shortcoming of the unemployment rate.

During 1984, the not-working ratio fell to a level near the all-time low of 1979, as illustrated in Figure I. It declined further in 1985, a portent of coming labor pressures. Instead of the slack indicated by the unemployment rate, the not-working ratio suggests that the economy could not resume vigorous expansion without problems.

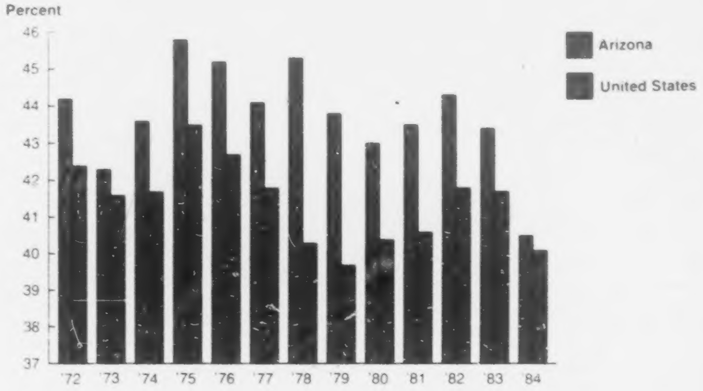
Thus, two measures generated by the same government source paint opposite pictures of current economic health. While a definitive answer as to which indicator is more accurate is not available, some hypothesizing may shed light on this question. The vast number of new jobs created during the last 20 years, filled by people who were not previously in the work force, suggests that some of the unemployed are "unemployable" - they do not have the skills necessary to be of value to an employer in today's rapidly changing economic and social environment. If this is the case, the unemployment rate is more a measure of displacements caused by an evolving economy than a measure of economic health.

FIGURE I
LONG-TERM TREND: UNEMPLOYMENT RATE RISING, NOT-WORKING RATIO FALLING
United States



Source: U.S. Department of Labor and the Bureau of Business and Economic Research, College of Business, Arizona State University

FIGURE II
NOT-WORKING PROPORTION
Arizona and the United States



Source: Bureau of Business and Economic Research, College of Business, Arizona State University

ARIZONA MEASURES

The unemployment rate in Arizona, while cyclical, has been more volatile than the national rate. For example, during the current economic expansion, the Arizona rate first fell to near 4 percent, then rose sharply to 6.7 percent, despite an economy that continues to grow. Thus, the unemployment rate in Arizona is also difficult to interpret as a gauge of the state's economic health.

A not-working ratio can be created for Arizona, but only on an annual basis because of the lack of timely estimates of working-age population. As shown in Figure II, a consistently smaller proportion of the Arizona working-age population has been employed, compared to the national average. The differential cannot be traced to the unemployment rate, since it is usually lower in Arizona. Nor do non-working senior citizens explain the difference, since the proportion of the population 65 years and older is nearly identical in Arizona to the national average. Simply, a smaller proportion of Arizonans are part of the work force. However, the state's not-working ratio declined during 1984 to its lowest point, demonstrating the strength of the Arizona economy.

—Tom R. Rex
Research Manager

Purchasing Indicators Creep Forward in November

The Arizona economy continued on a slow growth curve in November, with the indicators of activity showing only small advances (Table 1). New orders received from customers, lead time on shipments from vendors, employment, and purchase commitments all continued to increase at a modest rate. Production grew at the lowest rate since the expansion began almost three years ago. Inflation showed signs of heating up, although the rate of price increases still remained well under those recorded in 1983 and 1984. Arizona firms continued to cut inventories in November, for the third consecutive month, holding down the overall rate of expansion.

PRICES/DELIVERY TIME

Prices paid for major purchased items increased in November at a pace more than twice as great as in October. While the November net increase was the largest in seven months (since April 1985), it still was smaller than in almost any month of the previous two years. As expected, the rate of inflation is speeding up, but it is not likely to return to the uncomfortable rates of a few years ago. This relative price stability has been one of the major factors permitting the long-run growth curve to continue over the past three years.

Delivery time on shipments from vendors stretched at the same rate as in the previous month. The October and November net increases were the largest so far this year, showing that demand on vendors stepped up in the fourth quarter.

INVENTORIES/NEW ORDERS

Inventory levels of purchased materials dropped for the third consecutive month and at the same rate as in October. Inventory has decreased in six of the eleven months of 1985. This reduction of stocks has been a major factor holding economic growth to only moderate levels, but it positions the economy to avoid any downswing induced by enforced inventory reductions. Also, should new order receipts begin to increase, inventory rebuilding has the potential to cause an escalation in the economic growth curve.

New orders received by Arizona firms went up in November at a slightly higher rate than in October. The new order rate has been positive in each month since January 1983, when the current economic expansion began, although the growth rate was much smaller during 1985 than in the first two years of the expansion.

PRODUCTION/EMPLOYMENT

Production also advanced but at its lowest rate in 1985 and at the smallest rate since the expansion began almost three years ago. Production will remain in the doldrums until a pronounced upswing occurs in new order bookings.

Employment by Arizona firms rose at the highest rate of the preceding three months, but it still was well under the increases registered in the earlier months of 1985. While employment growth over all of 1985 was moderate, no declines were recorded.

PURCHASES

Purchases of materials and supplies by Arizona firms were higher in November than in October, but the month-to-month increase rate was about the same in both months. Purchase commitments advanced through November 1985, although they were moderate compared to those during 1983 and 1984, due to slower growth in order bookings.

'85 REVIEW/'86 OUTLOOK

No major upturn in the growth curve occurred through November, and 1985 was ending on a note of only moderate growth - not unusual for an economy about to close out its third year of upward movement. No sign of recessionary weaknesses was evident through November, and a continuation of slow growth likely will occur well into 1986 and perhaps beyond. Inventory levels of purchased materials had been reduced in six of the preceding seven months, resulting in a favorable inventory-to-economic-activity situation. Any significant increase in new order bookings will trigger an inventory buildup, causing good hikes in purchase commitments, production, and employment. Expected further declines in interest rates should cause some increase in growth during the first half of 1986.

— Harold Fearon

Dr. Fearon is chairman of the Department of Purchasing, Transportation, Operations in the ASU College of Business and is the National Association of Purchasing Management Professor.

TABLE 1
NOVEMBER PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (November compared to October)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	24	71	5
Delivery time from vendors	25	63	12
Purchased materials inventory level	28	38	34
New orders received	39	36	25
Production	28	48	24
Employment	23	62	15
Purchases	37	46	17

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

Arizona Purchasing Survey

Now in its 24th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity — higher, unchanged, or lower — of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date	
					Value	Percent Change from Year Ago
GROSS STATE PRODUCT (In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	2nd Qtr.	45.139	4.7	10.9	NA	NA
Arizona - 1972 Dollars	2nd Qtr.	21.324	1.5	7.7	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	3rd Qtr.	191.4	0.3	4.5	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	Oct.	106.0	0.1	2.4	NA	NA
BUILDING PERMITS (Total Dollar Value in Thousands)						
Maricopa County	Sept.	326,726	– 9	24	3,217,699	8
Pima County	Sept.	54,599	– 33	46	617,525	5
Balance of State	Sept.	66,796	2	40	538,083	10
Arizona	Sept.	448,121	– 12	29	4,381,098	8
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	Sept.	3,859	– 26	5	42,132	– 13
Pima County	Sept.	989	– 20	67	9,955	– 19
Balance of State	Sept.	1,280	– 22	33	13,283	29
Arizona	Sept.	6,128	– 24	17	65,558	– 8
HOME SALES						
Maricopa County - Number	Oct.	5,958	26	20	46,981	0
Maricopa County - Median Price	Oct.	74,900	– 0.1	3.9	73,475	3.5
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix-New Homes	3rd Qtr.	81	3.8	18.4	NA	NA
Metropolitan Phoenix-Resale Homes	3rd Qtr.	90	3.4	15.7	NA	NA
MORTGAGE INTEREST RATES (Conventional, 30-year, Fixed-rate)						
Maricopa County	Oct.	12.0	– 0.8	*	NA	NA
Maricopa County	Nov.	11.6	– 3.3	*	NA	NA
ELECTRICAL POWER SALES (In Millions of Kilowatt Hours)						
Arizona	Oct.	2,584.9	– 13.0	20.5	30,267.0	7.1

NA = Not Applicable.

* = Not Available.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

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BUREAU OF BUSINESS AND ECONOMIC RESEARCH

Arizona Migrants Better Educated, More Skilled

People who migrated — both to and from Arizona between 1975 and 1980 — had a demographic profile considerably different from that of the entire Arizona population. However, little distinction existed between the profiles of in-migrants and out-migrants, according to U.S. Bureau of the Census data.

Since so many migrants were either young adults or senior citizens (see the July 1985 *Arizona Business*), children represented a relatively small proportion of those who moved (see Table 1). Many migrants — presumably college students — lived in group quarters, such as dormitories, or with non-relatives. Compared to the entire Arizona adult population, a greater proportion of migrants were divorced or had never married.

Correlated with the greater educational achievement shown in Table 1, migrants were more likely to work at an executive, professional or technical occupation. In addition, a larger

See "Migrants," page 2

In This Issue

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6 Dec. Purchasing Survey
7 AZ Leading Index, Nov.
8 AZ Economic Indicators

Valley Inflation Temporarily Ceases

No inflation was measured during the fourth quarter in the Phoenix metropolitan area, following a slight 0.3 percent gain in the third quarter. From fourth quarter 1984, prices of goods and services rose just 3.8 percent to an index value of 191.5 in fourth quarter 1985 (1977 = 100).

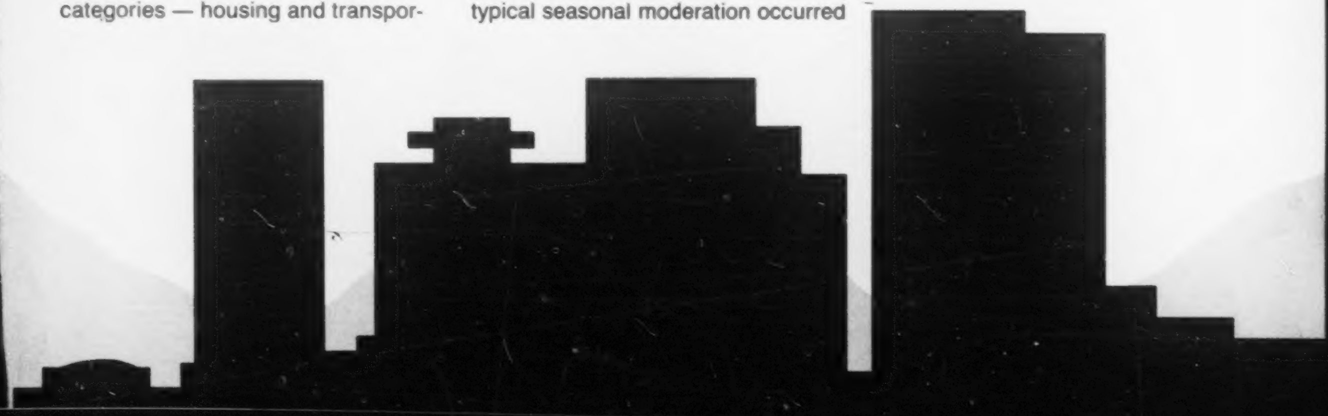
COMPONENT INDEXES

Because of seasonal factors, inflation during the fourth quarter is usually minimal. The two largest categories — housing and transportation — both declined during fourth quarter 1985; the drop in housing costs was due primarily to the switch to winter electricity rates. A modest increase in food prices and a large seasonal rise in entertainment costs neutralized these declines.

Food and Beverages

As predicted last quarter, food prices resumed an inflationary path during the fourth quarter after a third quarter decline (see Table 1); the typical seasonal moderation occurred a quarter earlier than usual in 1985. Grocery store prices rose 1.3 percent during the fourth quarter, led by a large increase in prices of fruits and

See "CPI," page 4



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"Migrants," from page 1

proportion of migrants were skilled workers, but a smaller percentage worked in sales, service or clerical occupations.

TABLE 1
DEMOGRAPHIC PROFILE
Arizona Residents, 1980, and Migrants, 1975-80

Household Relationship

	Householder	*Spouse*	*Child*	*Other Relative*	*Non-Relative*	*Group Quarters*
Total Population	35.2%	21.9%	32.5%	4.6%	3.9%	1.9%
In-migrants	38.5	24.4	23.5	3.5	6.5	3.4
Out-migrants	37.5	22.3	25.2	3.9	6.1	5.0

Educational Attainment, Persons 18 Years or Older

	Elementary	*High School*	*Some College*	*College Degree*
Total Population	13.0%	50.1%	21.8%	15.1%
In-migrants	7.5	49.1	24.2	19.3
Out-migrants	7.5	47.5	24.5	20.7

Marital Status, Persons 15 Years or Older

	Married	*Never Married*	*Divorced*	*Widowed*
Total Population ...	61.4%	24.6%	7.6%	6.3%
In-migrants	60.4	26.0	9.3	4.3
Out-migrants	57.2	26.5	12.1	4.2

Occupation, Persons 16 Years or Older

	Executives, Professionals, Technicians	*Sales, Clerical, Service Workers*	*Skilled Workers, Machinists, Transporters*	*Farm Workers, Laborers*
Total Population	28.2%	41.1%	23.8%	7.0%
In-migrants	30.5	34.7	26.8	8.0
Out-migrants	30.0	37.3	24.7	8.1

Source: U.S. Department of Commerce, Bureau of the Census, *Census of Population, 1980: County-to-County Migration Flows* (machine-readable data file), 1984.

REGIONAL DIFFERENCES

The demographic profile of Arizona migrants did not vary substantially by the region of the country from which or to which they moved, even though the number of migrants differs greatly among regions. Migrants to Arizona from the Midwest more frequently worked at sales and clerical positions than did other migrants, and their incomes were slightly lower. In contrast, migrants from the South more commonly held professional and technical positions that yielded slightly higher incomes. Migrants both to and from the Northeast were less frequently married. A larger proportion of the people who moved to the Northeast from Arizona had a greater educational attainment and held a professional job.

Immigrants from other countries who settled in Arizona had considerably different demographic characteristics. Compared to all migrants, immigrants were more frequently members of a large, extended family. Since a greater proportion of the adults had no income, the extended members of the family were more likely to depend only on the householder's income. Immigrants were less likely to be office workers of any type but more likely to be laborers. Although the proportion of immigrants without a high school education (16.7 percent) was twice that of other migrants (7.5 percent), the percentage with a college degree was nearly as great; a larger proportion of immigrants gained a graduate degree.

WESTERN STATES

Those who left Arizona for other western states commonly were born in the West, particularly in Arizona or in the state to which they moved. While those born east of the mountain states constituted 67 percent of Arizona's in-migration between 1975 and 1980 and 54 percent of its 1980 population, they made up only approximately 40 percent of its out-migration to other western states.

The characteristics of Arizona migrants who moved to and from Colorado, Nevada and Utah illustrate the type of differences found among western states:

- Colorado. People who moved between Arizona and Colorado were more highly educated than migrants as a whole. Those who moved to Arizona had higher incomes and more frequently worked in executive, professional and technical occupations.
- Nevada. In sharp contrast to Coloradan migrants, in-migrants from Nevada were less highly educated and less likely to hold professional or technical positions. Since so much of Nevada's economy is based on services, people moving both to and from Nevada frequently worked in that industry.
- Utah. People who moved to Arizona from Utah were more frequently married and highly educated; those who moved to Utah from Arizona were more commonly members of large families or were young adults who had not married.

SUMMARY

Arizona migrants between 1975 and 1980 were more highly educated than the Arizona population as a whole and more frequently worked at executive, professional and technical occupations. Although regional differences in these characteristics were slight, some variations existed from state to state. People who moved between Arizona and other western states generally were born in the West; they were not eastern migrants who later relocated in the West.

— **Jacqueline Fifield**
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— **Timothy D. Hogan**

— **Tom R. Rex**
Research Manager

Dr. Hogan is Professor of Economics in the ASU College of Business and Director of the State Data Center/ASU.

Migration to and from Arizona Changes in the '80s

Arizona experienced tremendous net in-migration from Northeastern and Midwestern states but net out-migration to most neighboring Western states between 1975 and 1980 (see the July 1985 *Arizona Business)*. Since 1980, however, Arizona has received proportionately less, though still substantial, net in-migration from Eastern states, while migration flows from most Western states have reversed to a net positive number.

DATA SOURCES

Most information on migration is derived from the decennial censuses conducted by the U.S. Bureau of the Census. These data are available only for five-year periods, e.g. 1975-80, and have been gathered from an 8 percent sample of the population.

Another source of migration statistics is the Internal Revenue Service (IRS), but their information also is limited. First, it has been available only since 1970 for selected years, and the most recent data were collected in 1983. Further, complete tallies of migration are not provided since the IRS counts only those who file income tax returns and those whose social security numbers match from year to year; hence, the measured proportion of probable total migration varies by year. However, the IRS information does allow a comparison of migration patterns for various years, and it provides an update, albeit not current, to 1980 census data.

COMPARISON OF SOURCES

Because of the limitations of each of these sources, a direct comparison of migration between sources is not possible. However, for the 1975-80 period, data that are available from the two sources generally agree as to each state's proportion of net migration. For example, the Census Bureau and the IRS concur that Arizona suffered net out-migration to 11 states, all in the Western or South-central regions; the IRS adds Alaska to the list. The only major discrepancy is that the IRS shows much greater net out-migration to New Mexico.

In subdividing net migration into its components, the sources also largely agree on out-migration, although the IRS measures more migrants to New Mexico and less to Washington than does the Census Bureau. For in-migration, however, a geographical difference exists: The IRS information shows less in-migration to Arizona from the Northeastern and Midwestern states, especially Illinois, Michigan and New York, but greater in-migration from Western and Southern states, particularly California, Nevada, New Mexico, Texas and Oklahoma.

CHANGING PATTERNS

Examination of the IRS data reveals significant swings in migration patterns between 1970 and 1983. The geographical distribution of migration flows during the mid-1970s — the recession years of 1974-75 and the weak recovery years of 1976-77 — was considerably different from that of either the early 1970s or the post-1978 period, which were generally similar. Thus, because they primarily cover the 1975-79 period, the census data provide a biased view of the dominant migration patterns since 1970.

Net Migration

While Arizona experienced net out-migration to most Western states during the mid-1970s, the trend has reversed since 1980, with net in-migration from Idaho, Oregon, Utah, Washington and Wyoming; net migration from Nevada swung positive in 1983. Arizona's net migration from these states was in the plus column during the early 1970s as well.

From 1980 through 1983, Arizona continued to experience net out-migration to Texas and New Mexico; the negative balance with New Mexico was greater than in the 1970s. Net out-migration also persisted with Alaska, Louisiana and Oklahoma.

The improved migration flows from Western states to Arizona were offset by less net in-migration from many Northeastern and some Midwestern states. States such as New York, New Jersey and Illinois provided a far smaller share of Arizona's net in-migration from 1980 to 1983; however, these states remained among the most important contributors. Thus, while a swing away from the extreme patterns of the mid-1970s has occurred, considerable migration from the Northeast and Midwest continues.

In- and Out-Migration

The improved migration flows from Western states to Arizona were due to a combination of reasons, which varied by state, of increased in-migration to Arizona and decreased out-migration from the state. Increased in-migration explains the improvement in net migration to Arizona from Nevada and Wyoming. From Oregon and Utah, in-migration rose at the same time that out-migration to those states fell. Out-migration from Arizona to Idaho and California decreased.

Texas and New Mexico experienced greater flows in both directions, though the largest increase occurred in the number of Arizonans moving to New Mexico. Continuing problems with the Texas economy since 1983 suggest that net migration to Arizona may have swung positive in 1984-85 for the first time since the early 1970s.

From the Northeastern and Midwestern states, decreased in-migration to Arizona is more responsible for the state's decline in net migration than an increase in out-migration from Arizona to those regions. The latter contributed to the decline in some states, however, particularly in New York.

SUMMARY

Arizona's population continues to grow rapidly during the 1980s, at approximately the same pace as in the 1970s. Most of the growth is a result of migration. While a redistribution of the sources of these migrants has occurred since 1978, returning Arizona to the pattern of the early 1970s, the total growth of the state has not been affected.

— Timothy D. Hogan

— Tom R. Rex
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Dr. Hogan is Professor of Economics in the ASU College of Business and Director of the State Data Center/ASU.

"CPI," from page 1

vegetables, reversing last quarter's sharp decline. Lower prices for dairy products and other food-at-home items (see Table 2) partially offset this gain.

Housing

The 1.4 percent decline in housing costs was the sharpest since fourth quarter 1982. Prompted by lower winter electricity rates, housing costs have declined in the fourth quarter for four successive years. Fuel and utility costs posted their largest decline ever as both electricity and natural gas rates dropped, the latter for the second successive quarter. Prices of household furnishings and operations also registered their greatest drop, while slight gains in renters' and homeowners' costs kept the shelter subcategory nearly flat.

Transportation

After the largest decline on record during the third quarter, transportation costs fell further during the fourth quarter. Used car prices dropped 5 percent, the fourth successive quarterly decline, following four years of rapid inflation. Further reductions were recorded in the prices of gasoline, vehicle parts and equipment, and vehicle finance charges; in each case, prices were lower than they were one year earlier.

Medical Care

Medical care costs increased at a relatively moderate rate for the third successive quarter, and the annual inflation rate for this category finally dropped to less than double-digit range. The cost of hospital services barely rose. Health insurance premiums registered a rare decline after three years of rapid advances and three quarters of slight gains.

COMPARISON AREAS

The quarterly inflation rate in the Phoenix area was again less than the national average, due to smaller gains in most categories, particularly housing and transportation (see Table 3). The percent change from one year ago, 3.8 percent, is comparable to the national average for the first time in two years, with Valley inflation lower in the housing, transpor-

TABLE 1
PERCENT CHANGES IN METROPOLITAN PHOENIX CONSUMER PRICE INDEX

		Percent Change from Preceding Quarter							
Expenditure Category	*Relative Importance*	*1st 1984*	*2nd 1984*	*3rd 1984*	*4th 1984*	*1st 1985*	*2nd 1985*	*3rd 1985*	*4th 1985*
ALL ITEMS	100.0	1.9	1.5	1.7	0.7	1.8	1.6	0.3	0.0
Food and Beverages	19.0	1.8	0.7	1.0	0.2	2.6	1.1	−0.7	1.6
Housing	38.9	0.6	2.0	2.3	−0.1	1.2	1.4	2.2	−1.4
Apparel and Upkeep	4.8	2.5	−1.3	−0.1	0.4	2.2	3.1	−2.5	2.7
Transportation	21.7	1.6	2.3	1.2	2.2	1.7	2.8	−2.2	−0.9
Medical Care	6.6	11.4	1.1	3.0	2.7	3.4	1.3	2.3	1.6
Entertainment	4.6	1.1	2.3	2.6	0.3	4.6	0.2	2.4	6.8
Other Goods and Services	4.3	0.8	1.1	2.1	1.2	1.4	1.7	0.3	0.9

TABLE 2
METROPOLITAN PHOENIX CONSUMER PRICE INDEX
Fourth Quarter 1985
(1977 = 100)

Expenditure Category	*Last Qtr. Index*	*This Qtr. Index*	*Percent Change*	*Year-Ago Change*
ALL ITEMS	191.4	191.5	0.0	3.8
Food and Beverages	171.0	173.7	1.6	4.6
Food	171.7	174.0	1.4	4.5
Food at Home	168.7	170.9	1.3	4.2
Cereal and Bakery Products	185.6	186.5	1.6	6.1
Meats, Poultry, Fish, and Eggs	156.4	156.6	0.1	0.4
Dairy Products	160.9	160.4	−0.3	2.7
Fruits and Vegetables	177.3	190.6	7.5	8.3
Other Food at Home	160.8	160.0	−0.5	5.1
Food Away from Home	174.7	177.2	1.4	5.0
Housing	202.0	199.1	−1.4	3.3
Shelter	215.1	215.4	0.1	4.3
Renters' Costs**	116.1	116.4	0.3	3.8
Homeowners' Costs**	108.1	108.3	0.2	4.2
Fuel and Other Utilities	181.5	168.4	−7.2	0.0
Gas (piped) & Electricity	206.2	182.8	−11.3	−0.5
Household Furnishings & Operations	153.0	150.7	−1.5	2.4
Apparel and Upkeep	144.2	148.1	2.7	5.5
Transportation	187.7	186.0	−0.9	1.3
Private Transportation	184.4	182.4	−1.1	1.5
New and Used Cars	193.9	190.2	−1.9	−1.3
Motor Fuels	196.0	189.4	−3.4	−1.7
Public Transportation	241.2	244.1	1.2	−1.4
Medical Care	257.2	261.2	1.6	8.8
Entertainment	184.7	197.2	6.8	14.5
Other Goods and Services	171.9	173.4	0.9	4.3

An ** indicates that the base period is second quarter 1983.

TABLE 3
METROPOLITAN PHOENIX CONSUMER PRICE INDEX UNITED STATES AND COMPARATIVE CITIES
Fourth Quarter 1985

	Percent Change from Last Quarter		Percent Change from One Year Ago			
Expenditure Category	*Phoenix*	*United States*	*Phoenix*	*United States*	*Denver*	*San Diego*
ALL ITEMS	0.0	1.0	3.8	3.6	2.9	4.2
Food and Beverages	1.6	0.6	4.6	2.5	1.0	2.3
Housing	−1.4	0.6	3.3	4.1	2.9	7.1
Apparel and Upkeep	2.7	2.9	5.5	2.9	0.0	−1.6
Transportation	−0.9	0.8	1.3	2.2	2.5	1.6
Medical Care	1.6	1.6	8.8	6.6	8.3	4.6
Entertainment	6.8	1.2	14.5	3.9	2.8	2.7
Other Goods and Services	0.9	2.9	4.3	5.9	6.3	4.1

Source (Tables 1, 2 and 3): Metropolitan Phoenix data compiled by the Bureau of Business and Economic Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank; other data in Table 3 are from the U.S. Department of Labor, Bureau of Labor Statistics.

tation, and other goods and services categories.

OUTLOOK

While the near absence of inflation during the second half of 1985 cannot be expected to continue, the Valley's rate probably will not exceed the national average by as large a margin in 1986 as it did between late 1983 and mid-1985. The year-over-year percent change in the Phoenix CPI likely will remain near 4 percent during the first half of 1986 but should accelerate to more than 5 percent later in the year.

— Tom R. Rex
Research Manager

Alternative Mortgage Instruments Less Popular in '85

New ways to finance the purchase of a home continued to be widely used in 1985, but they made up a smaller proportion of transactions than in 1984. These new mortgage types had been developed to solve the predominant problem of homebuyers during the 1980s: the financing of their purchase in times of high mortgage interest rates.

In a recent research project sponsored by Phoenix Magazine Publishing, Inc., the Arizona Real Estate Institute in the ASU College of Business surveyed more than 350 recent homebuyers in the Phoenix metropolitan area. The intent of this survey, the 11th since 1979, was to identify and analyze basic factors relating to the home purchase decision. A profile of financial characteristics is presented in Table 1.

CURRENT TRENDS

The traditional 30-year, fixed-rate mortgage still constituted more than one-half of all new financing obtained, but FHA and VA mortgages were more frequently selected than conventional mortgages. Graduated payment mortgages were the most popular of the newer financing forms, selected by 15 percent of the respondents; however, this instrument had been chosen by 20 percent in the 1984 survey. Adjustable or variable-rate mortgages were also less frequently used in 1985 than in 1984 (14 percent compared to 18 percent), while the share of 15-year, fixed-rate mortgages remained steady at 10 percent.

Young, affluent buyers were more likely to use the newer mortgage instruments. Seventy percent of the adjustable or variable-rate mortgages were made to households whose head was less than 45 years old; 64 percent were created for households with incomes in excess of $50,000. Those who selected FHA mortgages also were relatively young, but their incomes were lower.

Since the most popular alternative instrument, the adjustable-rate mortgage, usually carries a lower initial interest rate than the fixed-rate mortgage, the survey sought to determine why this alternative was not more widely used. The primary concerns expressed by respondents included interest rates that could rise, resulting in higher monthly payments (noted by 74 percent of the respondents); instability in payments (63 percent); and negative amortization (58 percent). The concern over rising interest rates was much more evident among those who selected the traditional mortgage than among those who chose the adjustable-rate mortgage.

Among resale homebuyers, seller, creative or second-mortgage financing was also a popular alternative, used by 25 percent of this group of respondents. The financial profile of these mortgages included a $26,700 principal at 12.5 percent for 15 years, resulting in a $430 monthly payment. The most common form was a second mortgage provided by a lending institution. The use of seller carry-back financing dipped appreciably since 1983.

SUMMARY

The decline in popularity of the various alternative financial instruments can be attributed to the drop in interest rates during 1985 and to the general improvement in housing affordability. If mortgage rates continue to fall, the need for and use of these alternatives is likely to dwindle further.

— Jay Q. Butler

Dr. Butler is Associate Professor of Real Estate in the College of Business, Arizona State University. He also serves as Director of the Arizona Real Estate Institute.

TABLE 1
PURCHASE TRANSACTION PROFILE OF
METRO PHOENIX HOMEBUYERS
(Median Values)

Housing Type	*Number of Responses*	*Purchase Price*	*Down Payment*	*Interest Rate*	*Monthly Payment*	*Square Footage*
Single Family - New	115	$89,450	$ 5,000	11.85%	$890	1,750
Single Family - Resale	150	78,500	10,000	11.12	681	1,700
Townhouse/Condominium - New	35	74,500	3,550	11.00	637	1,135
Townhouse/Condominium - Resale	23	65,000	15,000	12.00	550	1,430

Source: Survey conducted by the Arizona Real Estate Institute, College of Business, Arizona State University.

Purchasing Indicators Peak in December

TABLE 1
DECEMBER PURCHASING SURVEY

Key Indicators	Percent of Purchasing Managers Indicating Each Response (December compared to November) *Higher*	*Same*	*Lower*
Prices paid for major commodities	13	79	8
Delivery time from vendors	33	57	10
Purchased materials inventory level	32	39	29
New orders received	39	38	23
Production	36	42	22
Employment	18	69	13
Purchases	43	35	22

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

TABLE 2
ANTICIPATED EXPENDITURES FOR NEW PLANT AND EQUIPMENT

	Percent of Purchasing Managers Indicating Each Response *Higher*	*Same*	*Lower*
1986 compared to 1985	48	33	19
1985 compared to 1984	53	28	19
1984 compared to 1983	53	31	16
1983 compared to 1982	27	26	47
1982 compared to 1981	40	19	41
1981 compared to 1980	49	27	24

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

The purchasing indicators closed out 1985 by signaling that the pace of economic growth is stepping up. All indicators of economic activity were on the plus side in December (Table 1), for the first time since August. Prices remained well under control, with December's increase the smallest of the past six months. Inventory rebuilding appeared to be starting again, after three months of contraction. Lead times on purchased items registered the largest stretch-out of 1985. Both new orders received and production experienced their greatest increases since September. Overall, the Arizona economy reached a new, high level in December.

The economy is positioned to enjoy a solid rise in the first half of 1986 and probably during the entire year. As 1986 begins, the economy still is expanding, and the growth curve likely will begin to tilt up in the first quarter. While several economic uncertainties exist — the federal budget deficit, tax reform, interest rates, and the foreign trade imbalance — the forces still are present that buoyed up the economy over the past three years of steady, although spotty, economic growth. The expansion shows no sign of faltering. Instead, it should get stronger, helped by the low and predictable inflation rate, the need to rebuild inventories, and an increasing flow of new orders.

PRICES

Prices paid for major purchased items rose in December, marking the 36th consecutive month of price hikes. However, the December increase rate was much smaller than that of November and, excepting the month of May's advance, it was the smallest since February 1983. The past year has seen a degree of price stability not experienced since the slump of 1982, and it likely will continue well into 1986, helped substantially by the softness of the energy market. This should contribute to a continuation of orderly economic growth.

DELIVERY TIME

Delivery time on shipments from vendors continued to stretch and at a rate almost double that of November. The December advance in lead times was the largest of the past 16 months (since August 1984). Activity in vendor firms is intensifying, as new order bookings, production, and purchases all continue to increase. This shows that the rate of economic growth is accelerating.

INVENTORIES

Inventory levels of purchased materials rose slightly in December. While Arizona firms continue to keep a firm grip on stocks, the December hike follows three consecutive months of inventory declines and a year in which increases were recorded for only half of the months (primarily during the first part of the year). Hopefully, this is the beginning of stock rebuilding, which would move the Arizona economy to a faster growth track.

NEW ORDERS

New orders received by Arizona firms grew for the 36th consecutive month, at a rate somewhat higher than in November and the highest since September. While the increase rate still was much lower than in almost any month of 1983, 1984, and the first half of 1985, the rate of order bookings has increased in each of the past three months, showing that the economic expansion is alive, well, and accelerating.

PRODUCTION

Production also went up in December, closing out its third year of consecutive monthly increases. The December advance was larger than that of November and the highest of the past three months.

EMPLOYMENT/PURCHASES

Employment enjoyed a minor increase in December — the 12th consecutive monthly rise. Employment hikes have been moderate over the past six months, as Arizona firms continue to be cautious in interpreting the future course of the economy.

Continued improvements in the job situation are likely in 1986.

Purchases of materials and supplies by Arizona firms were higher, but the month-to-month increase rate has been about the same for the past three months. As the new order and production rates continue to grow, a further buildup in purchase actions can be anticipated, which will push the expansion well into its fourth year.

CAPITAL EXPENDITURE PLANS

Each December, survey respondents are asked a special question concerning their *anticipated* expenditures for new plant and equipment the following year (Table 2). The December 1985 responses indicate that 1986 will be a good year. Expenditures will be substantially higher than in 1985, a year of consistent, although moderate, expansion. Evidently, Arizona firms feel that the upward economic movement will continue in the new year and that additional productive capacity will be needed. This capital investment, if actually realized, will be a major factor in keeping the expansion going.

— Harold Fearon

Dr. Fearon is chairman of the Department of Purchasing, Transportation, Operations in the ASU College of Business and is the National Association of Purchasing Management Professor.

Arizona Purchasing Survey

Now in its 24th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity — higher, unchanged, or lower — of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

Arizona Leading Index Slides in November

The Arizona Index of Leading Economic Indicators fell in November, the second decline in the last three months. November's 0.2 percent decrease lowered the index to 105.9 from 106.1 in October (1977 = 100).

The diffusion index — the percentage of rising components — registered a strong 65 percent in November, but all of the advances were weak. As a whole, the five indicators derived from a survey of Arizona purchasing managers recorded a moderate gain for the second straight month, the strongest consecutive-month performance since mid-1983.

Two other components — residential building permits and unemployment insurance claims — were sharply negative, causing a decline in the leading index as a whole (see Table 1). Unemployment insurance claims merely continued the sawtooth pattern of the last two years. The decrease in residential building permits, however, was the third in four months, placing this component below its level of early 1985. (The large positive response to lower interest rates that was measured in July has been completely offset.)

A flat money supply (M2) contributed to the November weakness, following a rare decline in October.

OUTLOOK

Despite the decline in the Arizona leading index, the chance of a recession beginning in the next several months remains slight — only 6 percent. The index continues to signal a better year in 1986 than in 1985 for the Arizona economy, but only by a modest amount. The stubbornly erratic nature of the index suggests that fluctuating economic performance will persist during 1986.

The national leading index rose for the seventh consecutive month in November, only because of the sharp gain in the stock market, which is not a wholly reliable indicator. A 1986 GNP growth rate of 3.7 percent is the latest forecast from the leading index, which generally has been an accurate predictor within ± 0.7 percentage points. The lower end of the range seems likely in 1986, but this rate still represents an improvement from the 2.4 percent GNP gain in 1985.

— Tom R. Rex
Research Manager

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution⁺			
	Aug.	*Sept.*	*Oct.*	*Nov.*
Delivery Time*	.10	–.11	.14	–.02
Inventory Levels*	.06	–.09	.01	.03
New Orders*	.13	–.09	–.01	.10
Production*	.07	–.03	–.05	.01
Employment*	.12	–.15	.07	.08
Residential Building Permits	–.37	.03	–.13^{r}	–.28
Unemployment Insurance Claims	.16	–.21	.19	–.15
Average Workweek, Manufacturing	.02	.07	–.10^{r}	.01
Money Supply	.35	.18	–.06	.00
Change in Sensitive Materials Prices	–.04	.01	.06	.04
OVERALL INDEX	.59	–.39	.12^{r}	–.19

^{r}Revised

⁺The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

*Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date	
					Value	Percent Change from Year Ago
GROSS STATE PRODUCT (In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	2nd Qtr.	45.139	4.7	10.9	NA	NA
Arizona - 1972 Dollars	2nd Qtr.	21.324	1.5	7.7	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	4th Qtr.	191.5	0.0	3.8	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	Nov.	105.9	– 0.2	1.8	NA	NA
BUILDING PERMITS (Total Dollar Value in Thousands)						
Maricopa County	Oct.	332,078	1	8	3,549,777	8
Pima County	Oct.	55,475	1	– 21	673,000	2
Balance of State	Oct.	56,031	– 16	15	– 594,114	11
Arizona	Oct.	443,584	– 1	3	4,826,123	7
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	Oct.	5,604	45	8	47,736	– 11
Pima County	Oct.	1,160	17	– 13	11,115	– 19
Balance of State	Oct.	1,246	– 3	27	14,529	29
Arizona	Oct.	8,010	29	7	73,604	– 6
HOME SALES						
Maricopa County - Number	Nov.	3,970	– 33	8	50,951	0
Maricopa County - Median Price	Nov.	75,300	0.5	5.3	73,600	3.6
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix - New Homes	3rd Qtr.	81	3.8	18.4	NA	NA
Metropolitan Phoenix - Resale Homes	3rd Qtr.	90	3.4	15.7	NA	NA
MORTGAGE INTEREST RATES (Conventional, 30-year, Fixed-rate)						
Maricopa County	Nov.	11.6	– 3.3	*	NA	NA
Maricopa County	Dec.	11.0	– 5.2	*	NA	NA
POPULATION ESTIMATES (In Thousands)						
Maricopa County	3rd Qtr.	1,835	1.3	5.1	NA	NA
Arizona	3rd Qtr.	3,260	1.1	4.3	NA	NA
ELECTRICAL POWER SALES (In Millions of Kilowatt Hours)						
Arizona	Nov.	2,518.3	– 2.6	7.0	32,785.3	7.1

NA = Not Applicable.
*** = Not Available.**
Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

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Aging of U.S. Population To Impact Arizona Economy

Major demographic shifts — particularly in the age composition of the U.S. population — will transpire during the next 20-plus years, forcing many economic adjustments. Further, in states like Arizona where population gains largely derive from migration, these shifts may also impact population growth. Before examining potential effects, it is important to consider Arizona's historical population growth and the state's expected future gains.

POPULATION GROWTH — THE PAST

Arizona has experienced rapid population growth relative to the nation as a whole throughout the 20th century. From less than 123,000 residents in 1900, the state's population increased more than four times, to almost 500,000, by 1940. The post-World-War-II period has been marked by a major shift of the nation's population to the South and the West. This phenomenon has clearly been reflected in the growth trends of Arizona: a 50 percent increase during the 1940s; even faster growth during the 1950-60 decade; a slowing of the expansion in the 1960s (similar to the experience throughout the Western states); and a strong resurgence in the rate of growth during the 1970s.

Breaking out the total population increase during each decade into the

See "Aging," page 2

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'85 Valley Home Appreciation Stable at 3 Percent

Appreciation in home values during 1985 in the Phoenix metropolitan area remained stable at an annual rate of approximately 3 percent. For the third consecutive year at this rate, home values did not increase as fast as the general inflation rate, a sharp reversal from their rapid rise during the 1970s.

HOUSING APPRECIATION, 1981-85

The median rate of housing appreciation in the Phoenix area has been

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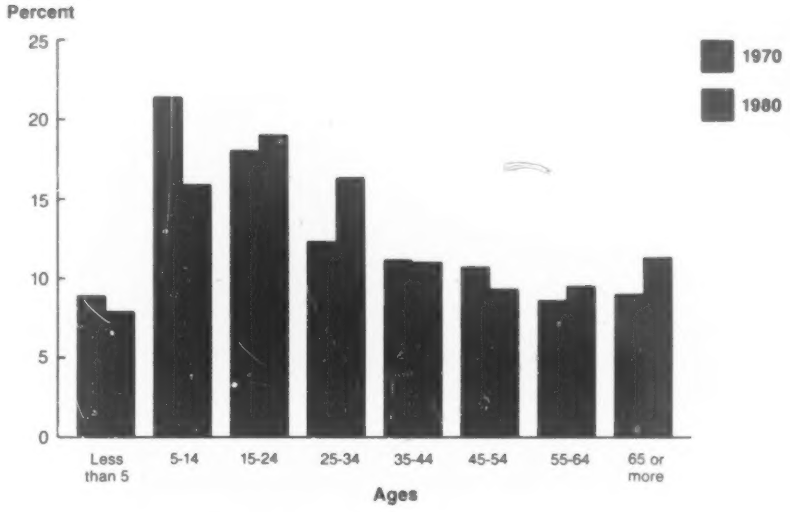
shares contributed by natural increase (the excess of births over deaths) and by net migration reveals that more than one-half of Arizona's population growth has resulted from net in-migration. Only during the 1960s did migration constitute less than 50 percent. With lower fertility since 1970, net migration has played an even greater role, contributing almost 70 percent of the 1970s' total increase in population.

In-migration has played a more important role in the growth of Arizona than has been the case for the Western region as a whole. While the absolute number of migrants to several other states in the West has been greater than the number moving to Arizona, the resident population of these states is also larger, making the net migration rate (the percent increase in population due to migration) to the West lower than to Arizona.

FIGURE I
ARIZONA AGE COMPOSITION



Source: U.S. Department of Commerce, Bureau of the Census.

POPULATION GROWTH — THE FUTURE

Official state population projections produced by the Population Statistics Unit of the Arizona Department of Economic Security are for a resident population of 3.7 million by 1990, an increase of 1 million since the 1980 census. The total number of Arizona residents is projected to top 4.8 million by the year 2000 — an additional 1.1 million people.

These population projections assume net migration into Arizona of 680,000 during the 1980-90 period. This figure is slightly greater than the 660,000 gain from migration during the 1970s. Net migration is projected to rise further, to 860,000 during the 1990s. The net migration figure for the 1980s would constitute about 70 percent of the state's total population gain for the decade — similar to the share for the 1970-80 period. With the number of deaths expected to increase faster than births during the 1990s, so that the natural increase will decline, migration is projected to contribute more than 75 percent of population growth during the 1990-2000 decade.

The official estimates of population gains during the 1990s may be overestimating the likely increases, however. These estimates assume that net migration during the 1990s will rise more than 25 percent from both the actual figure of the 1970s and the estimate of the 1980s. Instead, the number of migrants is likely to decline during the 1990s because of changes in the age composition of the American population. Migrants to Arizona have been predominantly of two types: young adults and senior citizens. After 1989, the number of young adults will decline substantially; for example, the number of Americans between 25 and 34 years of age will decline from 43.7 million in 1989 to 35 million in 2006. The number of senior citizens will increase, but only modestly until after 2005.

AGE COMPOSITION

With higher fertility than the nation as a whole, Arizona's proportion of population that is less than 15 years old is higher than that for the total U.S. population or for the West. With substantial retirement migration to Arizona, the proportion of the population that is 55 years or older is greater in Arizona than for the western region but is no larger than that for the nation as a whole. The age composition within Arizona's 55-or-older age group differs from the U.S. average, however, with a higher proportion of people 55 to 74 years old and fewer in the 75-or-older age group.

The age distribution of the state's population has changed substantially over time, in response to the demographic impacts of fertility, mortality, and migration. High birth rates experienced during the "baby-boom" period of the late 1940s and the 1950s resulted in a high proportion of children through the early 1960s; however, with lower fertility, the relative number of people less than 15 years old has since declined. Conversely, as the large group of people born during the early postwar period has aged, the proportion of young adults has grown. Due to both increases in life expectancy and retirement migration, the proportion of the Arizona population 55 or older has also expanded dramatically (see Figure I).

The net impact of all the demographic factors affecting age composition has been an overall aging of the state's population. Although the large number of children born during the "baby boom" lowered the median age of the Arizona population during the 1950s, the median age has risen from 25.7 years in 1960 to 29.2 years in 1980. At the same time, however, the in-migration of young adults and

TABLE 1
UNITED STATES AGE DISTRIBUTION

Age	1970	1980	1985	1990	2000	2010
Younger than 5	8.5%	7.2%	7.5%	7.5%	6.4%	6.2%
5 to 15	21.8	17.2	15.7	15.6	15.8	13.9
16 to 24	15.7	17.0	15.0	12.9	12.0	12.4
25 to 44	23.6	27.7	30.9	32.6	29.9	26.1
45 to 64	20.6	19.7	18.8	18.7	22.8	27.6
65 or older	9.8	11.3	12.0	12.7	13.0	13.9

Source: U.S. Bureau of the Census: 1970 and 1980 decennial censuses. Data Resources Inc.: 1985-2010 estimates.

the high fertility rate have offset the impact of retirement migration and have caused the median age of Arizona's population to remain below the national median.

The age structure of both the Arizona and U.S. populations will continue to develop, as illustrated in Table 1. The proportion of children has already declined and will fall further. While the percentage of young adults increased between 1970 and 1980, the aging of the baby-boom generation has already caused this phenomenon to reverse. The proportion of older, pre-retirement adults will bulge after 1990, but the percentage of senior citizens will not change substantially until after 2005.

ECONOMIC IMPACTS

Nationally, the evolving age composition will create tremendous economic effects. Arizona's rapid inmigration will modify these impacts on the local economy.

The labor force grew rapidly during the last 20 years because the baby boomers were entering the work force, and the labor force participation rate of females was increasing. During the next 20 years, however, fewer young people will enter the work force, and gains in the female-participation rate will slow. While the decreased number of new workers should put an end to the generally rising unemployment rate of the last 20 years, the rate may not decline substantially. Proportionately, not many workers will reach retirement age until after 2005; further, less demand will exist due to a smaller number of young consumers. The slowdown in labor-force growth will translate to a smaller potential gain in Gross National Product, from the historical 3 percent per year to perhaps less than 2.5 percent annually.

Concern has been expressed about the long-term viability of the Social Security program, as the number of workers declines and the number of retirees increases. While future problems may be substantial, they are more than 20 years away. Until then, the number of retirees per worker will remain nearly constant: In 1965, there were 24.8 people 65 or older for every 100 workers; by 2005, the ratio will climb only to 25.1.

The housing industry will undergo major changes during the next 20 years. The necessary number of new housing units will decline, from 1.85 million in the 1980s to less than 1.6 million after 1995. In addition, demand for the various types of housing will shift.

Since a disproportionately large share of apartment dwellers are young adults, the demand for apartment units will begin to decline before 1990. The surge in apartment construction during the last three years probably will not be repeated for decades. Areas that are not growing rapidly may experience persistently high vacancy rates.

The single family home market will also change. The demand for starter homes is currently peaking, but the clamor for larger, more expensive homes will rise during the next few years as baby boomers' incomes and families grow. That market, too, will decline later, as the baby boomers age into their 50s.

This changing age distribution will affect the demand for many other products since the consumption patterns of those in their 20s and 30s differ from those of older adults. All segments of the economy will need to adapt to these changing conditions.

— Timothy D. Hogan

— Tom R. Rex
Research Manager

Dr. Hogan is Professor of Economics in the ASU College of Business and Director of the State Data Center/ASU.

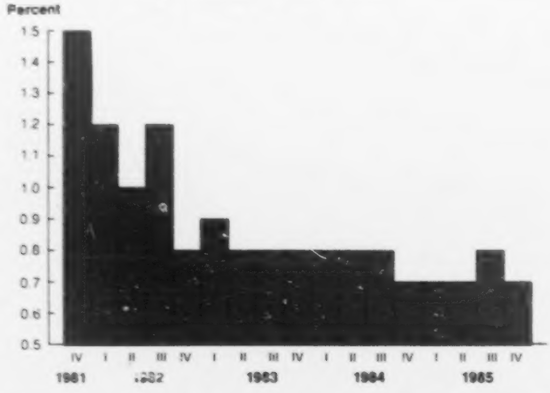
"Appreciation," from page 1

nearly constant since late 1982, at 0.7 to 0.8 percent per quarter (see Figure I). Despite an expanding economy and improved housing affordability since 1982, the rate of appreciation has not accelerated.

Home values are again increasing at approximately the rate of inflation, as seen in Table 1, following several years during the 1970s when gains exceeded the inflation rate. The appreciation rate was lower than the inflation rate in both 1984 and 1985, partially because it typically lags changes in the inflation rate and partially because of continued housing affordability problems. Declining mortgage interest rates throughout 1985 helped affordability, but these rates remained high compared to any period prior to 1980. Combined with home prices that remain historically high in comparison to household incomes, the affordability index has failed to reach 100 (see page 7).

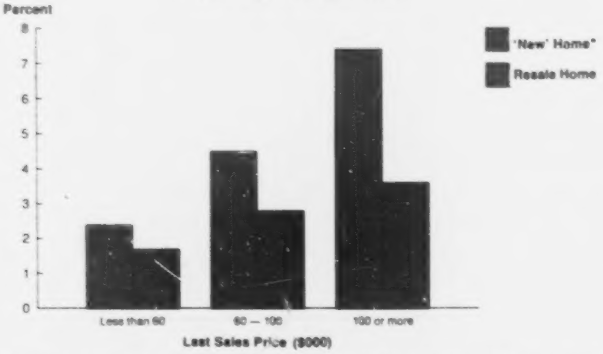
During the last three years, the appreciation rate was less than the rate of increase in the median sales price, with the difference almost entirely due to an increase in size of the average home sold. The gain in the median sales price per square foot of resale homes was almost identical to the appreciation rate of resale homes (see Table 1).

FIGURE I
MEDIAN RATE OF METRO PHOENIX HOME APPRECIATION
By Quarter of Last Sale



Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

FIGURE II
APPRECIATION IN METRO PHOENIX HOME VALUES
1981-85, Annual Rate



*A 'new' home is one originally sold as new between 1981 and 1985 and later resold during this period.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

TABLE 1
INFLATION MEASURES

	Percent Change			
	1983	*1984*	*1985*	*1983-85 Total**
Metropolitan Phoenix Consumer Price Index	1.6	5.8	5.0	12.9
U.S. Consumer Price Index	3.2	4.3	3.6	11.5
Phoenix Area				
All single family homes:				
Appreciation rate	3.6	3.2	3.0	10.1
Median sales price	4.8	6.3	4.0	15.9
New single family homes:				
Appreciation rate	5.7	4.7	4.9	16.1
Median sales price	6.0	9.9	8.1	25.9
Existing single family homes:				
Appreciation rate	2.9	2.7	2.8	8.6
Median sales price	4.6	4.8	3.2	13.1
Median sales price per square foot	2.9	3.0	2.2	8.3

*Calculated at a compounded rate.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University. U.S. Consumer Price Index from the U.S. Department of Labor, Bureau of Labor Statistics.

Effect of Housing Characteristics on Appreciation

Not all homes appreciate at the same rate. A home's value is partially controlled by the owner, through maintenance, repair and improvement activities. Not controllable by the homeowner, however, are determinants of appreciation that are a function of the entire market, such as whether the home is new and expensive.

The most important single influence on appreciation is whether the home was purchased new. (In this study, a "new" home is defined as one built, and later resold, between 1981 and 1985.) As seen in Table 1, the appreciation rate of new homes, 16.1 percent during the last three years, was nearly twice that of homes that were not purchased new, 8.6 percent. This rapid appreciation is realized only upon the first sale of a new home.

The faster increase in value of new homes may be misleading, however, in that at least a portion of the gain reflects additional expenses that most buyers of new homes incur in making permanent improvements, such as landscaping, which add to the value of the property.

The other characteristic that has a statistically significant impact on appreciation is the price of the residence: The more expensive a home, whether a new or existing property, the higher its rate of appreciation (see Figure II). Homes that sold for more than $100,000 had an appreciation rate of 1.2 percent per quarter, compared to a rate of only 0.5 percent per quarter for homes sold for less than $60,000.

Controlling for the size of the home by using price per square foot, a difference in the appreciation rate is still measured: Homes with a price per square foot greater than the median of $51 appreciated 1.1 percent per quarter, compared to a rate of 0.7 percent per quarter for those priced less than the median.

Housing Appreciation by Geographic Area

While the rate of appreciation varies by location across the Phoenix metropolitan area, much of the variation can be explained by the housing characteristics described above. An area with a large proportion of new and expensive homes will usually have a higher rate of housing appreciation than an area of older and less expensive dwellings.

The rate of appreciation, by district, is shown in Table 2. Rapid appreciation in the North Scottsdale, Paradise Valley, South Mesa, East Mesa, and Sun City West districts primarily relates to the greater proportion of new homes in those areas. In addition, most residences in North Scottsdale, Paradise Valley, and Sun City West are relatively expensive.

The other district with significantly higher appreciation, Sun City/Youngtown/Peoria, does not have a high proportion of new or expensive homes. Apparently, the unique nature of Sun City, including the unwillingness of homebuyers to consider other areas, such as Glendale or Phoenix, is responsible for the greater increase in home values. This same condition probably explains the very high rate of appreciation in Sun City West. East Mesa, which includes Leisure World and other retirement communities, also follows this pattern, since the appreciation rate in this district is slightly higher than expected, given its relatively low-priced homes.

The slowest appreciation rates were in the Metrocenter, Maryvale, Deer Valley and South Tempe districts. Metrocenter and Maryvale are areas in which most homes are lower-priced and older. South Tempe's low home appreciation rate occurred in all price ranges and for both new and resale properties. Deer Valley's low rate was primarily for inexpensive homes.

TABLE 2
MEDIAN RATE OF METRO PHOENIX HOME APPRECIATION
By Geographic District, Per Quarter

	Median Percent Change Per Quarter			
District	*1981-83*	*1984 Only*	*1985 Only*	*1981-85*
North Scottsdale	0.9	0.9	1.2	1.1[H]
South Scottsdale	0.7	0.7	0.6	0.7
Paradise Valley	1.3	1.0	0.9	1.0[H]
North Sunnyslope/Moon Valley	0.7	0.7	0.7	0.7
Northwest Phoenix	0.9	0.8	0.6	0.7
Metrocenter	0.4	0.6	0.5	0.5[L]
Sun City/Youngtown/Peoria	1.2	1.3	0.9	1.0[H]
Glendale	0.8	0.7	0.6	0.6
Christown	0.5	0.5	0.7	0.6
North Central Phoenix	0.6	1.0	0.4	0.7
East Camelback	0.6	1.0	1.3	1.0
East Central Phoenix	0.6	1.1	0.5	0.9
Mid-town Phoenix	0.5	0.8	1.0	0.6
West Central Phoenix	0.7	0.7	1.0	0.7
Maryvale	0.5	0.5	0.4	0.5[L]
Downtown/South Central Phoenix	0.0	1.0	0.2	0.6
South Phoenix	0.8	1.1	0.7	0.9
North Tempe	0.7	0.2	0.6	0.6
South Tempe	0.7	0.5	0.7	0.7[L]
North Mesa	1.0	0.5	0.5	0.8
South Mesa	0.9	1.0	0.9	1.0[H]
East Mesa	1.2	0.9	0.9	0.9[H]
Chandler/Gilbert	0.9	0.9	1.1	1.0
Western Suburbs	1.2	0.6	1.0	0.9
Deer Valley	1.0	0.7	0.6	0.7[L]
Sun City West/Rural Maricopa Co.	1.6	2.2	2.5	2.2[H]
TOTAL, METROPOLITAN PHOENIX	0.8	0.8	0.8	0.8

[H] The mean associated with this median is significantly higher than the mean for all of metropolitan Phoenix.

[L] The mean associated with this median is significantly lower than the mean for all of metropolitan Phoenix.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University. District designations are copyrighted by the Maricopa County Housing Study Committee.

The appreciation rate in some districts was different in 1985 than in prior years, as seen in Table 2. Because of the short time frame and the associated relatively small number of transactions, these changes in appreciation during 1985 should be interpreted with caution; many year-to-year variations are meaningless. In some districts, however, the rates of appreciation in both 1984 and 1985 differed from those of earlier years and may signal a trend that is not yet observable in the data for the entire 1981-85 period. In Paradise Valley, Northwest Phoenix, North Mesa, East Mesa and Deer Valley, the appreciation rate was lower in 1984 and 1985. The opposite trend was measured in the East Camelback, Mid-town Phoenix and Sun City West districts.

OUTLOOK

Appreciation in Phoenix area home values is expected to remain at slightly more than a 3 percent annual rate through 1986. Inflation and housing affordability, the two factors that most influence the overall appreciation rate, are not likely to change much through 1986. Appreciation of new home values should continue to exceed the inflation rate, while gains in resale homes probably will again fall short of that pace.

Looking beyond 1986, appreciation rates are likely to follow changes in the inflation rate. Because it is difficult to present a situation in which mortgage rates would decline much further, a persistent affordability problem is likely to continue limiting housing appreciation. Should mortgage rates fall, any increase in home values that significantly exceeds the gain in household income will again cause an affordability problem, this time due to higher home prices rather than to high interest rates. Thus, it is difficult to conceive of a situation similar to that of the late 1970s, when housing values accelerated rapidly, rising beyond inflation and income levels.

— Tom R. Rex
Research Manager

— Jay Q. Butler

Dr. Butler is Associate Professor of Real Estate in the College of Business, Arizona State University. He also serves as Director of the Arizona Real Estate Institute.

'85 Valley Home Sales Barely Pass '84 Level

The number of homes sold in the Phoenix metropolitan area during the fourth quarter rose slightly from the third quarter level, to 15,357, barely exceeding the record number sold during second quarter 1984. An increase in sales of existing homes provided the boost; the volume of new home sales decreased (see Table 1).

Declines in mortgage interest rates throughout 1985, but particularly after late May, stimulated home sales during the second half of the year. After running at a slower pace than in 1984 during the first half of 1985, the volume of homes sold during 1985 totaled 56,380 — 1.3 percent more than in 1984.

Resale single family homes, which accounted for more than two-thirds of all homes sold in 1985, led the gain with a sales increase of 3.8 percent. New single family home sales also advanced slightly, but the number of townhouse and condominium sales dropped 10 percent. The latter accounted for just 13.5 percent of all sales, the smallest share since 1981. Improved affordability of single family homes (see page 7) reduced the demand for townhouses and condominiums.

MEDIAN SALES PRICE

Despite a price decline for existing single family homes, the median sales price rose 0.7 percent in the fourth quarter, to $75,500 – 4.8 percent higher than in fourth quarter 1984. New single family home prices continued to rise rapidly; resale townhouse and condominium prices also recorded a gain but still did not reach the level of one year earlier.

For all of 1985, the median sales price was $74,000. The annual average increase of 4.2 percent was less than the 6.0 percent gain in 1984; the rate of increase for each housing type was less than in the prior year.

With an inflation rate of 5 percent measured by the Metropolitan Phoenix Consumer Price Index (see page 11), home prices again rose at a slower pace. However, in part due to higher land costs and the construction of larger homes, the increase in the median sales price of new single family homes exceeded the inflation rate. In contrast, deflation was measured in the median price of resale townhouses and condominiums, as the slump affected price as well as number of sales.

The advance in the price of resale single family homes, 3.2 percent, exceeded the gain in the median price per square foot, 2.2 percent, indicating that larger homes constituted a greater proportion of sales during 1985. Thus, adjusted for size, the rate of increase in single family resale home prices was less than one-half of the Valley's inflation rate, another sign that housing cannot be viewed as the investment it was during the 1970s (see the appreciation article on page 1).

OUTLOOK

Little change is expected in inflation rates, interest rates, or general economic conditions during 1986. Thus, the number of Phoenix area homes sold this year likely will be close to that of 1985. While the rate of increase in home prices shows some signs of acceleration, any speedup is likely to be minor; home price gains should not exceed the general inflation rate.

— **Tom R. Rex**
Research Manager

TABLE 1
METROPOLITAN PHOENIX HOME SALES

	Single Family			Townhouse/Condominium			Grand
Fourth Quarter 1985	*Resale*	*New*	*Total*	*Resale*	*New*	*Total*	**Total**
Median sales price	$74,650	$86,875	$77,900	$62,500	$67,000	$64,450	$75,500
Percent change from:							
Third quarter 1985	–0.5	3.9	0.4	1.8	0.8	0.7	0.7
Fourth quarter 1984	3.4	10.3	4.2	–2.2	3.4	0.0	4.8
Number of sales	10,469	2,711	13,180	1,430	747	2,177	15,357
Percent change from:							
Third quarter 1985	3.8	–16.0	–1.0	28.4	–16.3	8.5	0.3
Fourth quarter 1984	18.9	6.4	16.1	17.5	–18.3	2.2	13.9
Annual, 1985							
Median sales price	$73,500	$83,200	$75,925	$62,475	$65,050	$63,700	$74,000
Percent change from 1984	3.2	8.1	4.0	–1.6	3.9	1.0	4.2
Number of sales	38,605	10,174	48,779	4,864	2,737	7,601	56,380
Percent change from 1984	3.8	1.4	3.3	–6.0	–16.2	–10.0	1.3

Source: Bureau of Business and Economic Research, College of Business, Arizona State University; from data supplied by Marketron Services, Inc., Phoenix.

Valley Home Affordability at Highest Level in '85

Rising household incomes and declining interest rates offset increases in home prices during 1985, pushing home affordability to its highest level, on an annual basis, since the Metropolitan Phoenix Housing Affordability Indexes began in 1981. Improvement in resale home affordability was greater than that for new homes, resulting in an unusually large spread of 10 percentage points between their affordability indexes (89 and 79 respectively).

INTERPRETATION OF THE INDEX

The 1985 annual resale index of 89 means a household that earned the median income of $2,570 per month had 89 percent of the income required to qualify for the purchase of a median-priced ($73,500) resale home (see Table 1), assuming a 15 percent downpayment on a fixed-rate, conventional, 30-year loan. Because the median-priced new home was more expensive ($83,200), new homes were less affordable (see Table 2).

TABLE 1
HOUSING AFFORDABILITY INDEX, RESALE HOMES
Metropolitan Phoenix

Period	Median Sales Price	Interest Rate	Monthly Housing Payment	Median Gross Monthly Income	Affordability Index
Annual					
1981	$65,000	16.7%	$910	$1,990	61
1982	65,000	16.7	910	2,160	67
1983	68,000	13.7	790	2,270	80
1984	71,250	14.2	860	2,470	81
1985	73,500	12.9	810	2,570	89
Quarter					
4th 1984	$72,225	13.9%	$850	$2,510	82
1st 1985	70,900	13.4	810	2,540	88
2nd 1985 ...	72,500	13.4	820	2,560	87
3rd 1985	75,000	12.6	800	2,580	90
4th 1985	74,650	12.3	790	2,610	93

Source: Bureau of Business and Economic Research and the Arizona Real Estate Institute, College of Business, Arizona State University. Interest rates are from the Federal Home Loan Bank Board *News*, and income figures are derived from the Annual Buying Survey in *Sales and Marketing Management.*

TABLE 2
HOUSING AFFORDABILITY INDEX, NEW HOMES
Metropolitan Phoenix

Period	Median Sales Price	Interest Rate	Monthly Housing Payment	Median Gross Monthly Income	Affordability Index
Annual					
1981	$74,800	16.7%	$1,050	$1,990	53
1982	66,100	16.7	920	2,160	65[r]
1983	70,050	13.7	820	2,270	78
1984	76,950	14.2	920	2,470	75
1985	83,200	12.9	910	2,570	79
Quarter					
4th 1984	$78,700	13.9%	$930	$2,510	76
1st 1985	79,925	13.4	910	2,540	78
2nd 1985 ...	81,150	13.4	920	2,560	78
3rd 1985	83,575	12.6	900	2,580	80[r]
4th 1985	86,875	12.3	910	2,610	80

[r] **Revised**

Source: Bureau of Business and Economic Research and the Arizona Real Estate Institute, College of Business, Arizona State University. Interest rates are from the Federal Home Loan Bank Board *News*, and income figures are derived from the Annual Buying Survey in *Sales and Marketing Management.*

Each index is only a benchmark of affordability; for example, the median-income household could afford either a slightly lower-priced resale home ($66,675) or, with a somewhat larger down payment (23 percent), the median-priced resale home. Affordability could vary substantially if other financial components are assumed, such as selection of a variable-rate mortgage or eligibility for a lower income-qualification factor.

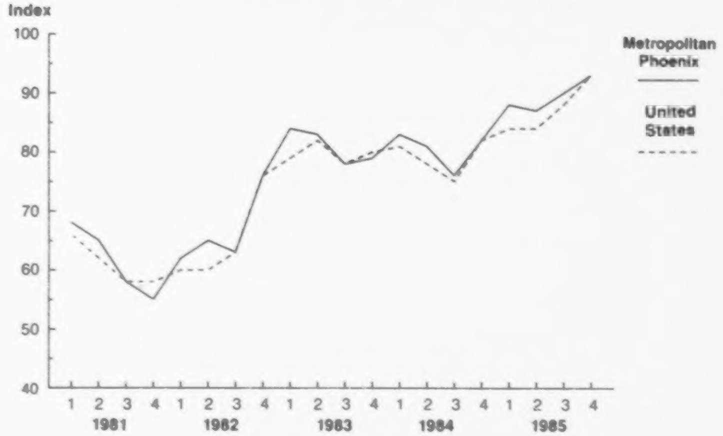
Affordability can also be interpreted in terms of the income needed to qualify a household for a median-priced home. A gross monthly income of $3,260 was needed in 1985 to afford a median-priced new home; $2,880 was required to buy a median-priced resale home.

CHANGES IN AFFORDABILITY IN 1985

The combined effect of changes in home prices, mortgage interest rates and household incomes determines the change in housing affordability. Mortgage interest rates continued to drop in 1985, falling 9 percent from 1984 and 23 percent from the annual averages of 1981 and 1982. From the peak of 18.8 percent during fourth quarter 1981 to the trough of 12.3 percent during fourth quarter 1985, the decline totaled 35 percent. The indexes use the effective interest rate on conventional mortgage loans for single family homes, which is the contract rate plus fees and charges, or "points," amortized over a 10-year period.

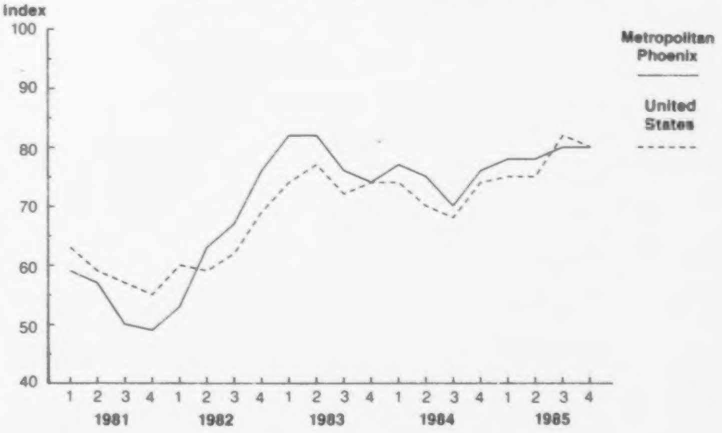
Unlike new home prices, the median sales price of resale homes typically falls in the fourth quarter. During 1985, this seasonal decline (0.5 percent) resulted in only a 3 percent rise in the annual median sales price for resale homes, compared to an 8 per-

FIGURE I
HOUSING AFFORDABILITY INDEX, RESALE HOMES
Metropolitan Phoenix and the United States



Source: Bureau of Business and Economic Research and the Arizona Real Estate Institute, College of Business, Arizona State University.

FIGURE II
HOUSING AFFORDABILITY INDEX, NEW HOMES
Metropolitan Phoenix and the United States



Source: Bureau of Business and Economic Research and the Arizona Real Estate Institute, College of Business, Arizona State University.

cent gain in new home prices. The third consecutive year of larger price increases for new homes pushed the median sales price 13 percent above the median price of resale homes.

New home prices increased at rates in excess of household income advances during 1985, nearly offsetting the decline in mortgage interest rates. In contrast, resale home price increases that were less than household income gains combined with lower interest rates to raise the affordability of resale homes further above the affordability of new homes.

The index for new homes rebounded from a low point of 70 in third quarter 1984 to 80 in third quarter 1985, but it remained at 80 during the last quarter of 1985. On an annual average basis, the affordability of new homes advanced only one percentage point from 78 to 79 between 1983 and 1985, much slower improvement than the surge from 53 to 78 between 1981 and 1983.

The resale index jumped to 93 during fourth quarter 1985, the highest level since the index began in 1981. The fourth quarter level was 38 points higher than the low point for the resale index, set in fourth quarter 1981. On an annual average basis, the index jumped eight percentage points in 1985; only the gain during 1983 was more rapid.

COMPARISON TO NATIONAL AFFORDABILITY

During the fourth quarter 1985, housing affordability in the Phoenix area was identical to the national average for both new homes (80) and resale homes (93), as shown in Figures I and II. Nationally, new home affordability actually slipped two percentage points during the fourth quarter, while resale home affordability increased five points.

On an annual average basis in 1985, new and resale homes continued to be slightly more affordable in metropolitan Phoenix than in the United States. The national index for new homes (78) gained six index points from the previous year, while the national resale index jumped from 79 in 1984 to 87 in 1985. Increases in the national indexes were greater than advances in the local indexes.

OUTLOOK

Little further improvement in housing affordability is expected in 1986. Mortgage interest rates probably will remain nearly constant. However, changes in public policy, such as Federal Reserve actions on the discount rate, or changes in market perception of these policies and of the future course of inflation, could drive mortgage rates either higher or lower. Resale home price increases likely will continue to lag gains in new home prices, bracketing the probable rise in household incomes. Thus, if interest rates remain stable, affordability of resale homes would rise slightly, but affordability of new homes would decline slightly.

— **Jacqueline Fifield**
Research Analyst

Purchasing Tempo Picks Up in January

After painting a slow-growth picture almost every month of 1985, business activity began a slight acceleration in December, and the tempo picked up in January. Both new orders received and production increased strongly, and employment registered its best increase since last summer. The pace of price increases also quickened but not at an alarming rate. The new year is off to a good start.

January marks the 37th consecutive month of the economic expansion, and business activity clearly moved at a brisker pace, as it had in December. The economic uncertainties still are present, but there is a growing feeling that the forward momentum will continue over the new year. The overall effects of the decline in energy prices have yet to be sorted out but, on balance, it seems clear that they will be positive. Inventories are well under control; should inventory rebuilding begin, it would act like a coiled spring, providing a solid thrust to the forward economic movement.

Table 1 presents the results of the January survey of Arizona purchasing managers.

TABLE 1
JANUARY PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (January compared to December)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	25	66	9
Delivery time from vendors	25	64	11
Purchased materials inventory level	30	39	31
New orders received	43	37	20
Production	40	43	17
Employment	26	58	16
Purchases	46	35	19

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

PRICES

Prices paid for major purchased items registered a substantial gain in January, rising at a rate almost three times greater than in December. The month-to-month price increase rate in January was larger than in all but four of the months of 1985 (January, February, April, and November). This quickening rate of price increases is not particularly worrisome at this point, since the Arizona economy enjoyed a relatively low inflation rate during the last three quarters of 1985. It will take time for the effect of softening energy prices to work its way through the economy, but this will tend to dampen further price increases.

DELIVERY TIME

Delivery time on shipments from vendors continued to stretch in January, although at a slower rate than in December. However, with the exception of December, the increase rate was greater than in any month of 1985. Evidently, vendors to Arizona firms are feeling the faster pace of business, and the result is lengthened lead times.

INVENTORIES

Inventory levels of purchased materials were unchanged in January and have shown no real growth since the first quarter of 1985. However, if and when inventory additions begin, they have the potential to provide a strong stimulus to the growth curve.

NEW ORDERS

New orders booked by Arizona firms rose sharply in January, for the 37th consecutive month. The increase rate was the largest since last August and was exceeded in only two months of 1985 (February and March). The new order rate accelerated faster in each of the past three months, indicating that the economic growth curve is tilting upward.

PRODUCTION

Production also registered a good hike, beginning its fourth year of consecutive gains. Propelled by higher order bookings, the increase rate was substantially larger than in December and the highest of the last nine months (since April 1985).

EMPLOYMENT

Employment advanced again in January, for the 13th month in a row, and at twice the rate of the previous month. This was the largest month-to-month employment jump since August. The rising new order rate will lead to more new jobs in the future.

PURCHASES

Purchases went up again in January, as required to meet the higher level of production. The increase rate was the largest since May 1984.

— Harold Fearon

Dr. Fearon is chairman of the Department of Purchasing, Transportation, Operations in the ASU College of Business and is the National Association of Purchasing Management Professor.

Arizona Purchasing Survey

Now in its 24th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity — higher, unchanged, or lower — of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

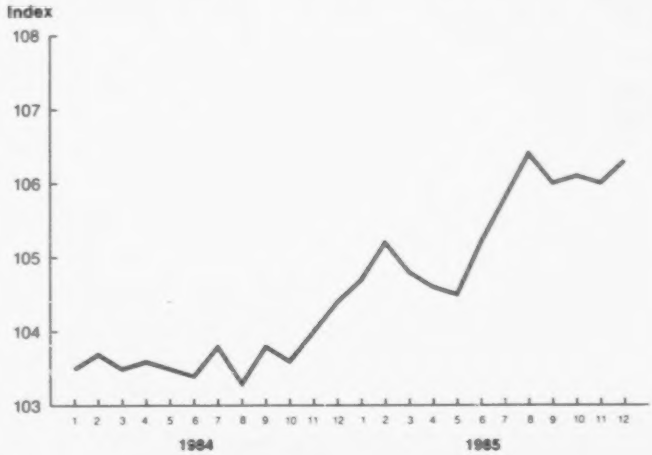
Arizona Leading Index Advances Cautiously in December

The Arizona Index of Leading Economic Indicators rose moderately in December, following two months of little change (see Figure I). December's 0.3 percent increase brought the index to 106.3 from a revised 106.0 in November (1977 = 100). Despite this gain, the index remained below its August 1985 peak.

At 70 percent, the diffusion index was relatively high, reaching its second-highest level in two years. Still, for the second consecutive month, none of the changes in components of the Arizona leading index was substantial. As a whole, the five indicators derived from a survey of Arizona purchasing managers recorded a moderate gain for the third straight month.

Residential building permits and the national money supply (M2) each rose, following declines in the prior two months (see Table 1). A reduction in average hours worked in the manufacturing industry partially offset these gains.

FIGURE I
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution⁺			
	Sept.	*Oct.*	*Nov.*	*Dec.*
Delivery Time*	−.11	14	−.02	.09
Inventory Levels*	−.09	.01	.03	.00
New Orders*	−.09	−.01	.10	.05
Production*	−.03	−.05	.01	.14
Employment*	−.15	.07	.08	−.01
Residential Building Permits	.03	−.13	−.25ʳ	.10
Unemployment Insurance Claims	−.21	.19	−.15	.00
Average Workweek, Manufacturing	.07	−.10	.01	−.16
Money Supply	.18	−.06	.00	.10
Change in Sensitive Materials Prices	.01	.06	.04	.01
OVERALL INDEX	−.39	.12	−.16ʳ	−.31

ʳRevised

⁺The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

*Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

OUTLOOK

Nearly all of the increase in the Arizona index during 1985 resulted from a surge in the national money supply (M2). The slight gains measured in the five components from the purchasing survey and in sensitive materials prices were negated by declines in residential building permits, unemployment insurance claims and the average manufacturing workweek.

The advance in the Arizona index during 1985 slightly exceeded that of 1984, resulting in a forecast of Gross State Product growth of approximately 7.5 percent for 1986 — compared to the 6 percent predicted one year ago for 1985. A sharp improvement in economic performance, therefore, should not be expected. However, the likelihood of a recession beginning before late 1986 is less than 2 percent.

Results of the January survey of Arizona purchasing managers further substantiate the expectation of modest economic improvement. While the indicators rose on an unadjusted basis (see page 9), the increase between December and January traditionally is even greater. Thus, on the seasonally adjusted basis of the leading index, each of the five indicators derived from the purchasing survey made a negative contribution in January.

The national Index of Leading Economic Indicators is indicating far more improvement in the national economy during 1986. Gains in each of the last eight months of 1985, including several substantial advances during the second half, were measured in the national index. A 4.5 percent forecast for Gross National Product growth in 1986, based on the December leading index, represents solid improvement from the 2.3 percent growth achieved in 1985. (The 1985 growth rate was near the forecast derived from the leading index one year earlier.) Most forecasters, however, do not expect GNP improvement in 1986 to approach the 4.5 percent forecast rate. Rather, a modestly better economy, similar to that indicated for Arizona by the state's leading index, is also likely on the national level.

— **Tom R. Rex**
Research Manager

Inflation Rate Slows in 1985

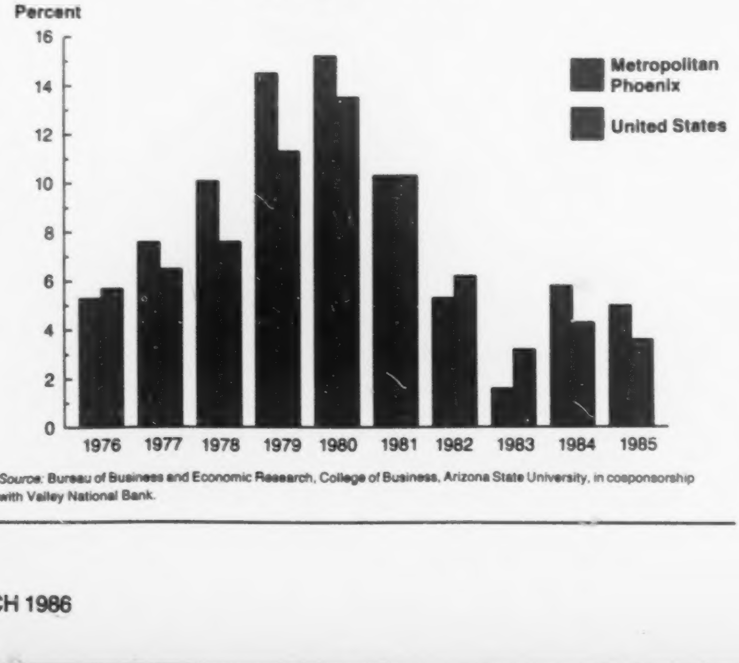
Consumer price inflation in the Phoenix metropolitan area slackened during the second half of 1985, resulting in a smaller annual average increase in 1985 than in 1984 (see Table 1). The magnitude of the deceleration in the annual average gain nearly matched that of the national average, but the Phoenix inflation rate outpaced the national average for the second straight year (see Figure I).

Several methods can be used to calculate the inflation rate from the consumer price index (CPI). In this article, the annual average percent change is used: the average of the four quarterly index values for a year, compared to the average of the previous year. The other widely used method is employed in the quarterly CPI reports (see the February *Arizona Business*). It compares the index value at the end of the year to the value at the end of the previous year. Because the inflation rate slowed during 1985, the year-end inflation rate (3.8 percent) was less than the annual average increase (5.0 percent).

CONSUMER PRICES IN 1985

With the exception of the medical care and entertainment categories, which each registered 10 percent inflation, all major categories of the metro Phoenix CPI recorded increases in the 4 to 5 percent range. While overall inflation decelerated during 1985, this pattern was not consistent among all categories; the index for food and beverages and for entertainment rose more rapidly during 1985 than in 1984.

FIGURE I
METROPOLITAN PHOENIX AND U.S. CONSUMER PRICE INDEXES
Annual Percent Changes



Source: Bureau of Business and Economic Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank.

Food and Beverages

Most food and beverage categories experienced slightly more rapid inflation in 1985 than in 1984; the major exception was meats, poultry, fish and eggs, which registered consecutive 1 percent gains. Price rises in cereal and bakery products were most rapid in both years, followed closely by those of fruits and vegetables. Fresh fruit prices soared 20 percent higher than in 1984, but fresh vegetable prices tumbled 2 percent.

Housing

The advance in housing costs was slightly faster in 1985 than in 1984, as a smaller gain in fuel and other utilities offset a more rapid rise in household furnishings and operations. Electricity rate hikes remained moderate at 5 percent, compared to 3 percent in 1984, while piped gas rates fell 4 percent in 1985, following a 10 percent climb in 1984. Further, the increase in other utilities and public services was just 1 percent, compared to 11 percent in 1984; inflation in telephone rates, water and sewerage maintenance, and garbage collection all subsided.

Apartment rent increases remained moderate, decelerating from 7 percent in 1984 to 6 percent in 1985. Homeowners' costs also went up a moderate 4 percent.

Transportation

Transportation costs rose less quickly in 1985, in large part due to

TABLE 1
METROPOLITAN PHOENIX CONSUMER PRICE INDEX
Annual Average, Selected Items

Expenditure Category	*1985 Relative Importance*[1]	*1985 Index (1977 = 100)*	**Percent Change** *1985*	*1984*
ALL ITEMS	100.0%	190.4	5.0%	5.8%
Food and Beverages	19.0	171.8	4.3	3.5
Food	17.8	172.5	4.3	3.6
Food at Home	11.6	169.9	4.1	3.1
Cereal and Bakery Products	1.5	186.0	7.6	6.0
Meats, Poultry, Fish, & Eggs	3.4	158.2	1.1	1.3
Dairy Products	1.6	160.0	3.3	1.3
Fruits and Vegetables	2.0	184.9	6.3	5.6
Other Food at Home	3.2	159.4	4.5	3.1
Food Away from Home	6.2	174.6	4.8	4.4
Housing	38.9	198.4	4.5	4.1
Shelter	24.8	212.6	5.2	4.2
Renters' Costs	8.1	114.9[2]	5.9	NA
Homeowners' Costs	15.8	106.9[2]	4.3	NA
Fuel and Other Utilities	6.7	173.1	1.8	7.4
Gas (piped) & Electricity	4.3	191.3	1.6	6.2
Household Furnishings & Operations	7.4	151.4	4.4	1.5
Apparel and Upkeep	4.8	145.9	3.8	3.8
Transportation	21.7	188.1	5.4	7.3
Private Transportation	20.2	184.9	5.5	7.1
New and Used Cars	7.6	194.5	4.2	13.4
Motor Fuels	5.8	198.8	3.0	1.7
Public Transportation	1.6	240.1	2.7	9.7
Medical Care	6.6	254.5	10.0	19.3
Entertainment	4.6	185.6	10.0	5.8
Other Goods and Services	4.3	171.3	5.4	6.4

[1] Expressed as a percent of all items. The relative importance of the seven major categories sums to 100.0 percent. Only selected detail items are shown; thus, the relative importance of these items will not sum to that of the major categories.

[2] Second quarter 1983 = 100.

NA = Not Available

TABLE 2
METROPOLITAN PHOENIX CONSUMER PRICE INDEX
UNITED STATES AND COMPARATIVE METROPOLITAN AREAS
1985 Annual Average Percent Change

Expenditure Category	*Phoenix*	*United States*	*Denver**	*San Diego**
ALL ITEMS	5.0%	3.6%	2.7%	5.5%
Food and Beverages	4.3	2.3	1.8	2.3
Housing	4.5	4.0	2.6	8.6
Apparel and Upkeep	3.8	2.9	2.8	2.2
Transportation	5.4	2.6	2.3	3.8
Medical Care	10.0	6.2	6.8	3.8
Entertainment	10.0	3.9	0.2	4.4
Other Goods and Services	5.4	6.1	6.0	7.1

*Estimated

TABLE 3
INFLATION FORECASTS, METROPOLITAN PHOENIX

	1985 Actual		**1986 Forecast**	
Expenditure Category	*Year-end*	*Annual Average*	*Year-end*	*Annual Average*
ALL ITEMS	3.8%	5.0%	6.0%	4.7%
Food and Beverages	4.6	4.3	5.1	4.9
Housing	3.3	4.5	5.9	4.6
Apparel and Upkeep	5.5	3.8	6.1	5.3
Transportation	1.3	5.4	5.6	2.7
Medical Care	8.8	10.0	8.9	8.5
Entertainment	14.5	10.0	5.6	9.4
Other Goods and Services	4.3	5.4	6.1	5.1

Source (Tables 1, 2 and 3): Metropolitan Phoenix CPI data and inflation forecasts compiled by the Bureau of Business and Economic Research, College of Business, Arizona State University. Valley National Bank cosponsors the metro Phoenix CPI reports. CPI data for other cities and the U.S. from the U.S. Department of Labor, Bureau of Labor Statistics.

a sharp braking of used car price gains: from 21 percent in 1984 to 1 percent in 1985. However, an acceleration in new car price increases from 3 percent to 9 percent partially offset this slowdown. Following a decline in 1983, gasoline prices advanced only 2 percent in 1984 and 3 percent in 1985. Vehicle finance charges and prices of vehicle parts and equipment fell for the second consecutive year, but vehicle insurance rates continued their double-digit explosion in 1985, up 21 percent.

Medical Care

Medical care inflation slowed by nearly one-half in 1985 but still averaged 10 percent. After nearly 50 percent inflation in 1984, health insurance premiums averaged only 13 percent higher in 1985. The magnitude of this gain is misleading, however, in that large premium boosts during 1984 were largely responsible; premiums climbed less than 6 percent between year-end 1984 and year-end 1985. Hospital costs rose just 4 percent in 1985, the second consecutive moderate advance.

Inflation in other medical care categories accelerated. Fee increases for professional services doubled to 8 percent in 1985; prices of non-prescription drugs and medical supplies jumped 12 percent; and prices of prescription drugs surged 14 percent, the third consecutive double-digit increase.

Other Categories

Advances in the apparel and upkeep category held steady at 3.8 percent, and gains in the other goods and services category slowed to 5 percent despite an acceleration in price increases for tobacco products. Entertainment costs, however, rose at double-digit rates. Prices for reading materials soared 21 percent, while admissions and fees jumped 10 percent.

COMPARISON AREAS

For the second consecutive year, the inflation rate in the Phoenix metropolitan area outpaced the rate of the nation as a whole and of the comparison area of Denver but fell slightly short of San Diego's pace. The inflation rate in rapidly growing Sunbelt metropolitan areas, such as Phoenix and San Diego, usually exceeds the national average during an economic expansion. Denver's ongoing problems with the oil industry probably were a factor in its below-national-average inflation of the past two years.

Inflation in metropolitan Phoenix in each major CPI category except other goods and services exceeded the national average during 1985 (see Table 2). Except in the largest category, housing, the Phoenix area rate was notably higher. A similar comparison could be made to Denver's major CPI categories.

San Diego's higher inflation was due almost entirely to a large advance in housing costs. Phoenix's inflation was substantially higher in every other major category except other goods and services.

OUTLOOK

National inflation during 1986 should remain near the 3.6 percent annual average increase recorded in 1985; nearly all economists project the 1986 annual average to be between 2.5 and 5 percent. Most prognostications, however, include an acceleration in the inflation rate during 1986. Those expecting inflation near 5 percent on average assume a higher year-end rate, leading to greater disagreement about the course of inflation in 1987.

Most analysts expect depreciation of the dollar to gradually result in higher inflation. Much of this acceleration, however, should be negated by falling energy prices. Further, food prices, except for meat, should continue to rise at a slow pace.

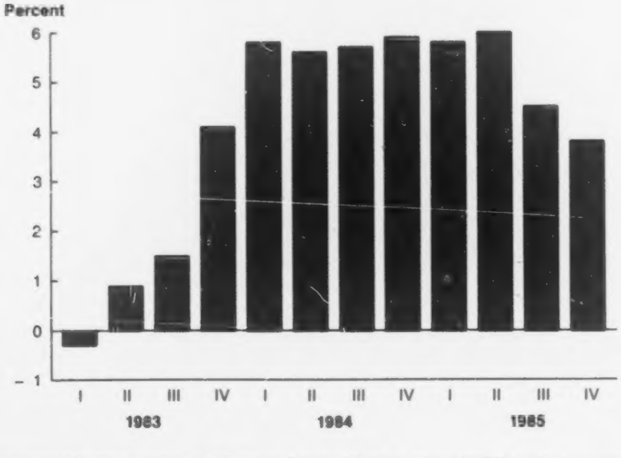
In the Phoenix metropolitan area, the annual average inflation rate should be lower in 1986 than in 1985 because of the near-absence of inflation during the second half of 1985. The year-over-year inflation rate, just 3.8 percent at the beginning of 1986, should remain near 4 percent during the first half of 1986 since inflation during this period is expected to approximate the relatively rapid rises of the first halves of both 1984 and 1985. Larger gains during the second half of 1986 than during the second half of 1985 should push the year-over-year inflation rate back near 6 percent by the end of 1986: the level that persisted throughout 1984 and the first half of 1985 (see Figure II).

By the end of 1986, most major categories of the Phoenix CPI should have a year-over-year inflation rate between 5 and 6 percent (see Table 3); only the medical care increase should be higher. On an annual average basis, however, more dispersion is likely, with inflation in medical care and entertainment nearly double, but inflation in transportation much less than, the all items rate.

If inflation remains subdued during 1986, it will mark the fourth consecutive year of rates less than 6 percent per year in the Phoenix area and less than 4.5 percent per year nationally. Such stability has not occurred since the mid-1960s. However, these rates remain high from a historical perspective; a steady 4 percent rate, for example, would cause price levels to double in 18 years. This experience is much different from the deflationary cycles that regularly occurred during the first 175 years of U.S. economic history.

— **Tom R. Rex**
Research Manager

FIGURE II
METROPOLITAN PHOENIX CONSUMER PRICE INDEX
YEAR-OVER-YEAR INFLATION RATE



Source: Bureau of Business and Economic Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank.

CPI Description Available

A description of the Consumer Price Index is available on request from the Bureau of Business and Economic Research. It answers common questions concerning the CPI; for example:

- What is the difference between the CPI for all urban consumers (CPI-U) and the CPI for urban wage earners and clerical workers (CPI-W)?
- What is the relationship between the CPI and the inflation rate and how is this rate calculated?
- Is the CPI a cost-of-living index?
- How is the CPI applied in contractual agreements?

A copy of the CPI description can be obtained by calling (602) 965-3961.

GSP Growth Still Subpar in Third Quarter

Slower-than-average growth in the Arizona Gross State Product (GSP) continued during third quarter 1985. While the inflation-adjusted expansion of 4.9 percent (excluding mining and agriculture) represented an improvement from the second quarter's revised 3.3 percent rise, growth remained below the long-term average of 5.5 percent (see Table 1).

The pattern of growth in real, adjusted GSP has been similar to that of the revised Gross National Product (GNP) in recent quarters (see Figure I). The rapid expansion of 1983 and early 1984 ended in the third quarter 1984 nationally, but not until the following quarter in Arizona. Since then, both nationally and in Arizona, slower-than-normal growth has persisted except for a brief interruption during first quarter 1985.

Without adjustment for the wide fluctuations in the agriculture and mining sectors, real GSP has followed a more erratic course, including a revised decline during second quarter 1985. On average, real GSP continues to rise more slowly than the adjusted version.

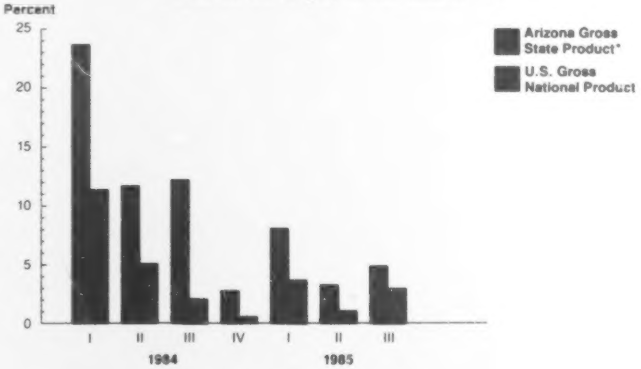
In addition to its impact on the mining and agriculture sectors, the growth recession has primarily affected the other productive industries of construction and manufacturing. The trade and services sectors continue to expand relatively rapidly, fueled by population gains and increases in household income.

OUTLOOK

Substantial revisions to the GNP were included in the fourth quarter 1985 report; similar revisions, though of a lesser magnitude, will be incorporated into the fourth quarter Arizona GSP. Growth in the fourth quarter 1985 GNP was a subpar 1.2 percent; the GNP has yet to reflect the improving economic conditions signaled by various economic indicators. In Arizona, a gradual, but modest, acceleration in the rate of economic growth is expected.

— **Tom R. Rex**
Research Manager

FIGURE I
ARIZONA GROSS STATE PRODUCT*
AND U.S. GROSS NATIONAL PRODUCT
Percent Change, at Annual Rate



*Adjusted for Mining and Agriculture

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

TABLE 1
ECONOMIC GROWTH

	Arizona Gross State Product				Gross National Product
Quarter	*Billions of Current Dollars, Annualized*	*Billions of 1972 Dollars, Annualized*	*Annualized Percent Change (1972 Dollars)*	*Annualized Percent Change (Adjusted GSP)**	*Annualized Percent Change (1982 Dollars)[r]*
First 1983	$33.756	$16.635	14.7%	18.6%	4.0%
Second 1983	35.558	17.472	20.1	22.6	8.9
Third 1983	37.183	18.121	14.9	13.3	4.3
Fourth 1983	38.159	18.552	8.8	5.3	8.0
First 1984	39.832	19.531	21.8	23.7	11.4
Second 1984	40.719	19.804	5.6	11.7	5.1
Third 1984	42.217	20.599	16.1	12.2	2.1
Fourth 1984	42.669	20.693	1.8	2.8	0.6
First 1985[r]	44.607	21.247	10.7	8.1	1.1
Second 1985[r]	44.797	21.185	−1.2	3.3	1.1
Third 1985	45.543	21.507	6.1	4.9	3.0

*The adjusted GSP is the annualized GSP in billions of 1972 dollars, minus the contributions of the agriculture and mining industries.

[r] Revised.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University; in cosponsorship with the ASU College of Business Dean's Council of 100.

Arizona Male-to-Female Ratio Higher Than Nation's

The number of females exceeds the number of males in Arizona, but not by as great a proportion as nationally. In 1980, the Arizona population consisted of 97 males per 100 females, the same ratio measured since 1970. Nationally, 94 males were counted for every 100 females.

HISTORICAL PERSPECTIVE

Until the 1960s, the number of males exceeded the number of females in Arizona, a trend dating to the state's days as a frontier territory. In 1910, the ratio was 138 males per 100 females, compared to 106 males per 100 females for the nation as a whole.

Gradually, the state's ratio declined toward the national average as the number of native Arizonans increased and the composition of migrants to the state changed to include more females.

ARIZONA SEX RATIOS, BY AGE

The sex composition of the Arizona population varies substantially by age. For those who were 18 or younger in 1980, the ratio was 104 males to 100 females, due primarily to the fact that more males than females are born every year.

Among the working-age population, the ratio was 97 males to 100 females, the same as for the entire population. With the much longer life expectancy for women, the relative proportion dropped to 79 men to 100 women age 65 or older. Despite this low ratio, because of the large volume of retirement migration to Arizona, consisting primarily of couples, the state's elderly population comprises relatively more men than in either the West or the nation as a whole.

— Timothy D. Hogan

Dr. Hogan is Professor of Economics in the ASU College of Business and Director of the State Data Center/ASU.

Valley Mortgage Rates Decline

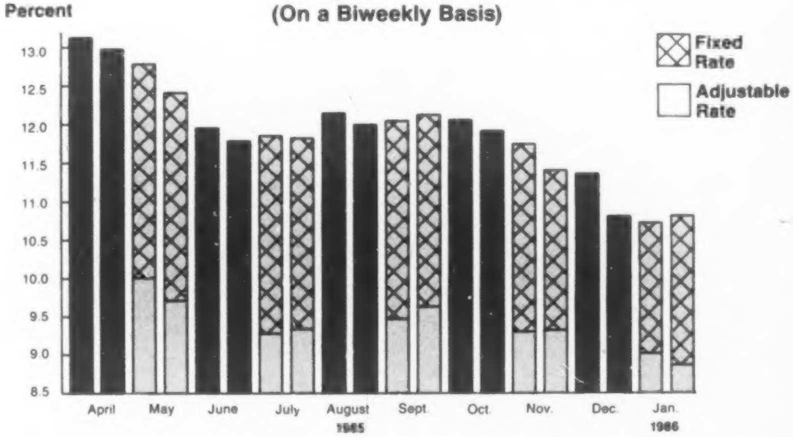
Interest rates for a conventional, 30-year, fixed-rate mortgage in the Phoenix metropolitan area declined by more than two percentage points between April 1985 and February 1986, according to a weekly survey begun last April. Rates for adjustable-rate mortgages did not go down as much, but the initial rate remained nearly two percentage points less than for a fixed-rate mortgage (see Figure I).

The "points" — a one-time fee paid to the lender — varied on fixed-rate loans in a narrow range of 2.3 to 2.8 percent of the mortgage amount. Average points of 2.5 or less usually presage a decline in interest rates the following week. Generally, the points charged for adjustable-rate mortgages were the same or slightly higher than for a fixed-rate mortgage.

Interest rates on a 15-year, fixed-rate mortgage usually were approximately one-quarter percentage point less than on a 30-year, fixed-rate mortgage; the points charged on a 15-year mortgage were also slightly lower. While monthly payments on a 15-year mortgage are higher than on a 30-year mortgage, the additional payment is used to pay off the principal more rapidly.

— Tom R. Rex
Research Manager

FIGURE I
AVERAGE MORTGAGE INTEREST RATES
Metropolitan Phoenix
(On a Biweekly Basis)



Source: Arizona Real Estate Institute and Bureau of Business and Economic Research, College of Business, Arizona State University

Update Your Mailing Label(s)

By early April, *Arizona Business* readers will receive a form on which to update their mailing label(s). This form must be completed and returned to us within 15 days of receipt, or your label will be removed from the mailing list.

The form also will include a three-question reader survey. By checking the appropriate boxes, you will aid us in planning an upcoming series of reader surveys on current issues of interest to the business/governmental communities.

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date Value	Year-to-Date Percent Change from Year Ago
GROSS STATE PRODUCT (In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	3rd Qtr.	45.543	6.7	7.9	NA	NA
Arizona - 1972 Dollars	3rd Qtr.	21.507	6.1	4.4	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	4th Qtr.	191.5	0.0	3.8	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	Dec.	106.3	0.3	1.8	NA	NA
BUILDING PERMITS (Total Dollar Value in Thousands)						
Maricopa County	Nov.	215,328	−35	−21	3,765,105	5
Pima County	Nov.	43,777	−21	−21	716,776	1
Balance of State	Nov.	39,657	−29	−58	633,771	0
Arizona	Nov.	298,762	−32	−29	5,124,974	4
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	Nov.	2,893	−48	−5	50,657	−10
Pima County	Nov.	436	−62	−37	11,551	−20
Balance of State	Nov.	1,115	−11	8	15,644	27
Arizona	Nov.	4,444	−44	−7	78,080	−6
HOME SALES						
Maricopa County - Number	Dec.	5,429	37	12	56,380	1
Maricopa County - Median Price	Dec.	76,900	2.1	5.8	74,000	4.2
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix - New Homes	4th Qtr.	80	−1.2	5.3	NA	NA
Metropolitan Phoenix - Resale Homes	4th Qtr.	93	3.3	13.4	NA	NA
MORTGAGE INTEREST RATES (Conventional, 30-year, Fixed-rate)						
Maricopa County	Dec.	11.0	−5.2	*	NA	NA
Maricopa County	Jan.	10.8	−1.8	*	NA	NA
POPULATION ESTIMATES (In Thousands)						
Maricopa County	4th Qtr.	1,856	1.1	4.9	NA	NA
Arizona	4th Qtr.	3,294	1.0	4.1	NA	NA
ELECTRICAL POWER SALES (In Millions of Kilowatt Hours)						
Arizona	Dec.	2,793.7	10.9	3.9	35,579.0	6.8

NA = Not Applicable

* = Not Available

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

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ARIZONA STATE UNIVERSITY ■ COLLEGE OF BUSINESS
BUREAU OF BUSINESS AND ECONOMIC RESEARCH

Quarterly Economic Forecast Update

Outlook for 1986 Brightens

The first convincing indications of an end to the growth recession that plagued the national economy through the last half of 1984 and all of 1985 have been measured. While national leading indexes began to signal an upturn in economic activity last summer, coincident indicators did not show such advances until the end of the year. In particular, industrial production and employment/unemployment figures reflected the progress.

The slowdown hampered the Arizona economy from late 1984 through 1985. Improving national conditions should be paralleled in Arizona, though perhaps to a lesser degree. A surge to boom conditions is unlikely. Before examining national and state prospects for 1986, a review of 1985 is presented, including the accuracy of the Bureau's forecasts.

1985 FORECAST ACCURACY

With the exception of personal income and Gross State Product (GSP), complete data for 1985 were available when this article was written on March 1. Tables 1 and 2 compare the data to Bureau projections. Forecasts prepared under the current format have been issued every three months for one year; an earlier prognostication made in late 1984 was somewhat less accurate.

See "Economy," page 2

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6 '85 AZ Construction Report
13 CPI Seasonal Adjustments
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15 AZ Leading Index, Jan.
16 AZ Economic Indicators

'86 Real Estate Market Outlook

Activity Expected To Remain Stable at High Level

The 1986 metropolitan Phoenix real estate market should remain stable, with activity expected to vary little from the high levels of 1985. This outlook represents the consensus opinion of four real estate groups in Maricopa County: homebuilders, financial services (banks, savings and loan associations, and mortgage bankers), real estate brokerages (commercial and residential), and "other" entities (appraisal, development, title insurance and property management firms, and government). They were surveyed during December

See "Real Estate," page 12

ARIZONA BUSINESS

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TABLE 1
ECONOMIC FORECAST ACCURACY
Arizona, 1985

		Date of Forecast			
	Actual	1/1/84	3/1/85	6/1/85	9/1/85
Gross State Product Real Percent Change	6.1^{P}	7.5	7.2	7.2	6.2
Personal Income Current Percent Change	9.0^{P}	10.8	10.1	10.1	9.6
Retail Sales Current Percent Change	8.9	10.0	10.0	10.0	9.0
Unemployment Rate Percent	6.5	4.7	5.7	5.7	6.5
Wage and Salary Employment Percent Change	8.2	6.7	5.8	5.8	6.3
Population Number in Thousands	3,228^{P}	3,211	3,210	3,210	3,210
New Single Family Housing Number of Units Permitted	33,271	NA	28,250	29,000	32,950
New Multifamily Housing Number of Units Permitted	37,312	NA	23,775	30,000	30,000
Value of Building Permits Current Dollars in Millions	5,449	NA	4,425	4,800	5,250

P = Projected
NA = Not Available

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

TABLE 2
ECONOMIC FORECAST ACCURACY
Maricopa County, 1985

		Date of Forecast			
	Actual	11/1/84	3/1/85	6/1/85	9/1/85
Consumer Price Index Percent Change	5.0	5.7	5.7	5.7	6.0
Retail Sales Current Percent Change	12.9	NA	10.3	10.4	10.4
Unemployment Rate Percent	5.1	NA	4.5	4.5	4.8
Wage and Salary Employment Percent Change	9.1	NA	6.5	6.5	7.1
Population Number in Thousands	1,811^{P}	NA	1,810	1,810	1,810
New Single Family Housing Number of Units Permitted	23,143	20,000	19,000	20,000	21,750
New Multifamily Housing Number of Units Permitted	27,271	15,000	15,000	20,000	22,500
Value of Building Permits Current Dollars in Millions	4,013	NA	3,100	3,500	3,700

P = Projected
NA = Not Available

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

"Economy," from page 1

GSP and Personal Income

Forecasts in these series were consistently too optimistic, compared to the latest projections based on three quarters of available data. However, personal income estimates for 1985 probably will be revised up by the U.S. Bureau of Economic Analysis, since employment figures recently were increased substantially by the Arizona Department of Economic Security (DES). Thus, the early predictions for GSP and personal income may turn out to be accurate; recent projections were lowered to reflect the available data.

Employment and Population

The unemployment rate is the other indicator on which the Bureau was too optimistic. Sharp increases in the rate during the first few months of 1985 were not foreseen. Further, the recent DES revision placed the unemployment rate even higher than originally reported.

Estimates of employment growth, on the other hand, turned out to be pessimistic, again because of the DES revision. Forecasts for both Arizona and Maricopa County growth were quite close to the originally reported data.

Because of the absence of actual counts, the population projections cannot be completely evaluated. However, the 1985 special census of Maricopa County, conducted in the fall, provided a "preliminary final" count of 1.83 million residents. The Bureau forecast of the special census population was within 5,000 people (see the January 1985 *Arizona Business*).

TABLE 3
FORECAST OF KEY NATIONAL INDICATORS

			Annual Average Percent		
			1986 Forecast Scenarios		
	Actual 1984	*Actual 1985*	*Control*	*Optimistic*	*Pessimistic*
Real Gross National Product	6.5	2.3	3.5	4.5	2.7
Consumer Price Index	4.3	3.6	3.5	2.5	4.3
Unemployment Rate	7.5	7.2	6.7	6.5	7.2

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

Retail Sales and Inflation

The retail sales figure previously reported by the Bureau was a comprehensive measure including grocery store sales. In mid-year 1985, however, the Arizona Department of Revenue stopped data collection of grocery store sales of food items, since these items had not been taxed for five years. Historical growth rates of the new series that excludes food sales are not equivalent to the original series, biasing the accuracy comparison for 1985.

The near absence of inflation in the Phoenix area during the second half of 1985 lowered the rate well below the Bureau's predictions. At 5 percent, the rate was nearly one percentage point lower than in 1984.

Real Estate

Two factors largely explain the Bureau's underestimates of the number of new housing units permitted and the total value of building permits. First, interest rates declined throughout 1985, boosting residential construction. Second, commercial construction, particularly of office buildings and apartments, did not decline as much as expected. High vacancy rates did not preclude new construction as anticipated, and a proposed tax law that would have slowed development never passed.

1986 NATIONAL FORECAST

High interest rates, a large budget deficit and a ballooning trade deficit limited the economic expansion during 1984 and 1985. Progress on each problem is likely to accelerate economic growth during 1986.

By maintaining an accommodative policy throughout 1985, the Federal Reserve Board allowed the money supply to rise rapidly and interest rates to fall. Due to the typical lag, the benefits of these actions were just beginning to be felt at the end of 1985. The failure of inflation to reignite, combined with the sharp drop in oil prices, added downward pressure on interest rates.

After peaking in March 1985, the dollar has fallen substantially, particularly since September when a coordinated effort began to force its decline. Because of the usual lag time, a reduction in the trade deficit has yet to appear, but optimism about a U.S. industrial revival already has been reflected in industrial production.

Optimism is also widespread concerning the budget deficit because of the Gramm-Rudman measure. The lack of concrete results and the possibility of its failure to achieve results suggest that the recovery probably will not be as great as signaled by the leading indicators.

While the national Index of Leading Economic Indicators rose steadily throughout the second half of 1985, only one-half of the components participated in the gains. The stock market and the money supply provided the biggest contributions. Other components that are more directly related to production also advanced, including the average workweek, change in inventories, and the level of building permits. However, indicators such as new orders, vendor performance and unemployment insurance claims rose minimally.

The many bright spots that have appeared recently almost ensure that growth in the 1986 GNP will be more rapid than the weak 2.3 percent of 1985. Enough problems remain, however, to suggest that the better performance will be short-lived and/or modest in magnitude.

Control Forecast

The basic scenario assumes no major change in existing economic and political conditions through most of 1986. Oil prices are presumed to stabilize between $15 and $20 a barrel, providing both a stimulus to the economy and a downward influence on inflation, particularly during the next few months.

Meanwhile, the Federal Reserve Board is balancing demands to loosen monetary policy to accommodate potential reductions in federal spending against the urge to tighten it, given rapid money supply growth and accelerating economic expansion. They are expected to maintain a relatively steady policy. Comparatively stable interest rates should result, but additional declines could be prompted by lowered inflationary expectations.

The dollar should continue a controlled decline of modest proportions, allowing U.S. industry to improve its competitive position internationally and reducing the trade deficit. This scenario also assumes modest action by Congress to reduce the federal deficit — not enough to meet the Gramm-Rudman goal but enough not to crush optimism.

A noticeable improvement in general economic conditions during the first half of 1986 should result. Although a reduction in the trade deficit should require several months to develop, anticipation of improved competitiveness through inventory building should provide an earlier, rather than later, boost to the economy. In conjunction with existing optimism and low oil prices, economic growth probably will be faster in the first half of 1986 than in the second half. While a brief surge to a 5 percent or greater annual rate is possible, average GNP growth for the year should be near 3.5 percent (see Table 3).

Inflation should slow during the first half of 1986, then accelerate in the second half, averaging less than 4 percent for the fourth consecutive year. The unemployment rate should drop slightly prior to stabilizing and then rising late in 1986. All of these conditions are more optimistic than presented three months ago because of the continuing fall of the dollar and declining oil prices.

By 1987, this scenario assumes that oil prices and inflation in general will rise, prompting the Federal Reserve to adopt a tighter monetary policy. While the economy will not have overheated to the extent of some prior cycles, this tightening and the expansion's age should precipitate a mild recession by late 1987. By then, the period of growth will have matched the length of the longest peacetime expansion.

Optimistic Scenario

One or more conditions could stimulate economic performance beyond the levels suggested in the control forecast, particularly late in 1986 and into 1987. For example, inflation could decline further and remain lower if oil prices do not recover and if slack in the international economy slows the acceleration in inflation that is expected from the ameliorated trade situation. Lower inflation could lead to lower interest rates and a more accommodative monetary policy.

Greater reductions in the budget deficit, combined with the proper mix of fiscal-monetary policy, could also lead to sustained rapid economic expansion. Under the proper set of conditions, moderate-to-swift economic growth could persist through 1987.

Pessimistic Scenario

A number of factors could cause economic performance to fall below expectations, again particularly after mid-year 1986. Political actions head the list. Failure to cut the budget deficit as much as expected could cause optimism to drop and the economy to fall back into a growth recession. A change in monetary policy, particularly in its mix with fiscal policy, could have the same effect. Other unpredictable political measures, such as tax reform or an energy surcharge, could also produce negative effects.

1986 ARIZONA FORECAST

Arizona's economic outlook is little changed from that of three months ago. While the effects of the national slowdown were felt during 1985, performance generally exceeded expectations, resulting in an unusually wide gap between Arizona and national growth. This differential is likely to narrow to more traditional levels in 1986 due to potentially greater economic improvement nationally than in Arizona. (In some cases, the "slower" 1986 growth in certain indicators shown in Tables 4 and 5 results from the arithmetic of calculating an annual average.)

Personal income and GSP probably will grow at a similar rate in 1986 as in 1985, though the expected revisions to 1985 figures leave doubt as to the exact levels.

Retail sales probably will slow slightly from the rapid advance of 1985, particularly in Maricopa County, but only a modest retrenchment by consumers is expected. The inflation rate also should be lower in 1986, due to both the slowdown in late 1985 and the oil price decline.

The net in-migration of people to Arizona has yet to show any moderation from record levels, despite higher unemployment rates. Thus, the population estimate for mid-year 1986 has been raised. With the Arizona unemployment rate near the national average and with national economic conditions likely to improve, population gains should subside later in 1986.

TABLE 4
1986 ECONOMIC FORECAST: ARIZONA

	Actual	Actual	1986 Forecast Scenarios		
	1984	1985	*Control*	*Optimistic*	*Pessimistic*
Gross State Product					
Millions of 1972 Dollars	20,157	21,400^{P}	22,725	23,225	22,375
Percent Change	14.0	6.2	6.2	8.5	4.5
Personal Income					
Millions of Current Dollars	36,151	39,400^{P}	43,075	44,125	42,550
Percent Change	13.3	9.0	9.3	12.0	8.0
Retail Sales					
Millions of Current Dollars	16,634	18,113	19,650	20,100	19,375
Percent Change	14.0	8.9	8.5	11.0	7.0
Unemployment Rate					
Percent	5.0	6.5	6.5	6.0	7.0
Wage and Salary Employment					
Number in Thousands	1,181	1,278	1,348	1,380	1,335
Percent Change	9.6	8.2	5.5	8.0	4.5
Population					
Number in Thousands	3,091^{E}	3,228^{E}	3,360	3,370	3,350
Percent Change	4.2	4.4	4.2	4.5	3.8
New Single Family Housing Units Permitted					
Number	30,845	33,271	32,000	35,500	27,000
Percent Change	-0.3	7.8	-3.8	6.7	-18.8
New Multifamily Housing Units Permitted*					
Number	47,539	37,312	24,000	28,500	11,500
Percent Change	43.0	-22.0	-35.7	-23.6	-69.2
Value of Building Permits					
Millions of Current Dollars	5,262	5,449	4,650	5,700	3,800
Percent Change	44.0	3.5	-14.7	4.6	-30.3

E = Estimated
P = Projected
*Apartment complexes of three or more units

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

Employment

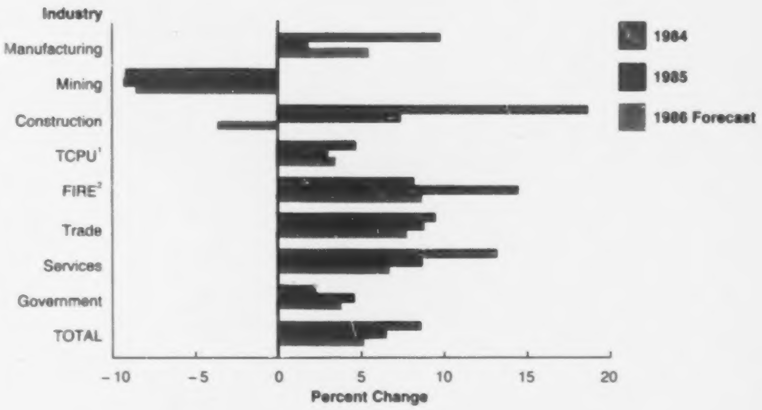
Employment gains as a proportion of population gains remained high in 1985, but this ratio should lower in 1986 with somewhat slower employment growth. According to the revised data, the unemployment rate peaked in mid-1985. The subsequent decline probably has ended, with stable unemployment rates anticipated through 1986.

As seen in Figure I, 1985 employment gains varied widely by sector, and further disparity is likely in 1986. While growth in most industries slowed during 1985, gains were more rapid in the government and the finance, insurance and real estate (FIRE) sectors. Growth in most sectors should slow further during 1986, but manufacturing should recover from its minuscule advance of 1985. The fastest-growing sectors in 1986 should be FIRE, trade and services.

Real Estate

Changes have been made in the real estate forecasts of three months

FIGURE I
ARIZONA EMPLOYMENT GROWTH
Year-end, by Industry



[1] Transportation, Communications and Public Utilities
[2] Finance, Insurance and Real Estate

Source: Bureau of Business and Economic Research, College of Business, Arizona State University. Actual data for 1984-85 from the Arizona Department of Economic Security.

TABLE 5
1986 ECONOMIC FORECAST: MARICOPA COUNTY

	Actual	Actual	1986 Forecast Scenarios		
Consumer Price Index	**1984**	**1985**	*Control*	*Optimistic*	*Pessimistic*
Percent Change	5.8	5.0	4.7	3.0	5.2
Retail Sales					
Millions of Current Dollars	8,456	9,549	10,450	10,700	10,225
Percent Change	11.0	12.9	9.4	12.1	7.1
Unemployment Rate					
Percent	3.8	5.1	5.2	4.7	5.6
Wage and Salary Employment					
Number in Thousands	770	840	890	915	880
Percent Change	11.1	9.1	5.9	8.9	4.8
Population					
Number in Thousands	1,726^E	1,811^E	1,895	1,900	1,885
Percent Change	4.6	4.9	4.6	4.9	4.1
New Single Family Housing Units Permitted					
Number	20,774	23,143	22,000	24,000	19,000
Percent Change	-0.9	11.4	-4.9	3.7	-17.9
New Multifamily Housing Units Permitted*					
Number	36,817	27,271	17,000	21,000	8,000
Percent Change	53.8	-25.9	-37.7	-23.0	-70.7
Value of Building Permits					
Millions of Current Dollars	3,811	4,013	3,450	4,200	2,800
Percent Change	54.3	5.3	-14.0	4.7	-30.2

E = Estimated

*Apartment complexes of three or more units

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

ago. The outlook for the two most overbuilt sectors, office buildings and apartments, have gone in opposite directions. The office sector is likely to slow further than previously expected as several announced projects may not be started in 1986.

While the number of apartments permitted during 1985 fell more than 25 percent from the record 1984 level, the 27,000 units permitted still greatly exceeded earlier forecasts. Thus, the prediction for 1986 again has been upwardly revised, though a sharp decline still is indicated. A possibility remains that "the bottom" may fall out of this sector at any time.

Alternative Scenarios

In the optimistic scenario, Arizona would join the nation in enjoying a period of rapid economic expansion with relatively low inflation and interest rates. The expansion, however, would not attain the pace experienced during 1983 and early 1984 — such record growth will not be easy to match. The construction boom largely accounted for the extra-fast growth in 1983-84; the construction slowdown that cannot be avoided in 1986 will brake the economy's expansion.

Under the pessimistic assumptions, Arizona's economy would enter a recessionary period in early-to-mid-1987. The recession probably would be short and mild, in contrast to the 1974-75 and 1981-82 downturns. Since growth during 1986 still would be relatively strong — a good first half seems assured — the numbers shown in Tables 4 and 5 are not that different from the control forecast. A deceleration would unfold during the second half of 1986, leading into the 1987 recession.

SUMMARY

The outlook for 1986 is more upbeat than it was three months ago, particularly for the national economy. The chance of a recession in Arizona is less than 5 percent, but the odds increase greatly for 1987. The largest questions again relate to political actions, especially concerning fiscal and monetary policies. Further, conditions largely out of the control of policymakers, such as oil prices, add uncertainty to the forecast.

—Tom R. Rex
Research Manager

Arizona Construction Sets Another Record in '85; Growth Rate Slows

For the third consecutive year, the Arizona construction industry established a record level of activity in 1985. Nearly 108,900 building permits, valued at $5.4 billion, were issued. As in previous years, the apartment, office building, and industrial sectors led the activity. Although a new record was established, the rate of growth (3 percent) appreciably slowed from the 44 percent jump registered in 1984 ($5.3 billion).

Maricopa County continued to dominate Arizona construction activity with $4.0 billion in permitted building (65,422 permits) — 74 percent of the state's total dollar value. The $4.0 billion represented a 5 percent increase over the $43.8 billion recorded in 1984, while the number of permits grew 3 percent, from 63,050 to 65,422. Pima County's dollar value continued to represent 14 percent of the total, although it declined 3 percent from 1984 ($774 million to $747 million). Permit activity remained virtually unchanged at 17,368.

SECTORAL ACTIVITY

Residential

Maricopa County. Mortgage interest rates dropped significantly during 1985. For example, the interest rate on a 30-year conventional mortgage fell from 13 percent to 10.7 percent. Declining interest rates did not have an appreciable impact on the housing market, however. Single family permit activity increased only 11 percent, from 20,774 to 23,143 permits. In fact, the fourth quarter, with 4,260 permits, recorded one of the lowest levels of quarterly activity in several years. Although below expectations, construction activity in 1985 was at the highest level since the record year of 1978, with 30,479 permitted homes.

Several factors may explain this lower-than-expected level of activity. The first is that the single family market has experienced three consecutive years of solid activity, sustained by home builders using innovative financing programs that offered interest rates comparable to current rates. Hence, much of the expected pent-up demand was alleviated. Another reason is that consumers have taken on a considerable debt load over the last few years and may need fairly low rates to enable them to buy a new home. While interest rates were declining, qualifying standards for loans were being tightened to fight the high level of defaults. This step reduced the number of people who could qualify for a new mortgage. Finally, the housing market of the 1980s cannot be equated to that of the 1970s, when low interest rates and rapid housing appreciation greatly stimulated sales.

New home (single family, detached) sales activity in 1985 rose from 10,037 to 10,174 homes, while the median sales price increased from $76,950 to $83,200. Some of the price increase can be attributed to a stronger move-up market. In 1984, 43 percent of new homes sold for more than $80,000, compared to 56 percent during 1985. In the new townhouse/condominium market, sales activity decreased from 3,265 units (median sales price of $62,600) to 2,737 units (median sales price of $65,050). This market was adversely affected by the emergence of the move-up market and by lower interest rates, which enabled first-time buyers to purchase a detached, single family home, typically the preferred housing style.

Households also took advantage of lower interest rates to finance remodeling projects rather than the purchase of a new home. Remodeling activity continued to grow during

1985, from $51 million to $56 million, although the number of permits declined slightly from 6,739 to 6,649.

Rest of Arizona. Unlike Maricopa County, Pima County achieved only a 1 percent increase from 1984 to 1985 in single family permit activity (4,110 to 4,160 permits). More than 73 percent of these permits (3,066) were issued in the unincorporated area of Pima County, while only 24 percent (994 permits) were in the city of Tucson. Although the mobile home sector declined 5 percent, from 2,227 permits in 1984 to 2,107 permits in 1985, this sector still represented 18 percent of the authorized housing units in Pima County (12,028). This compares to only 4 percent (2,318) in Maricopa County.

The single family sector in Arizona's other 13 counties remained virtually unchanged (5,968 permits). The mobile home market continued to be an important element of the housing market, increasing from 5,125 permits in 1984 to 6,350 permits in 1985. Permit activity in this sector exceeded that in the single family sector and represented 58 percent of all mobile home permits issued statewide. A mobile home permit does not necessarily indicate the addition of a new housing unit; it may simply record the movement of a unit.

Commercial

Maricopa County. Although the commercial sector posted a 10 percent decrease in dollar value of issued permits ($1.7 billion to $1.5 billion) and a 19 percent drop in number (4,532 to 3,627), the decline basically occurred in the multifamily sector. This sector moved from a recorded value of $930 million (1,978 permits) in 1984 to $687 million (1,513 permits) in 1985. The multifamily sector consists primarily of apartment projects of five or more units and condominium projects that tend to enter the rental market.

Even though this sector posted a 24 percent decline, from 34,284 to 26,014 authorized units, 1985 was the third consecutive year in which multifamily activity exceeded activity in the single family sector. During the last three years, 81,698 multi-family units have been authorized, and the market is beginning to have some difficulty absorbing this number of units. Unlike 1984, the metropolitan vacancy rate increased in 1985, from an annual average of 8 percent to 10 percent.

The office building sector established another record year, growing from 382 permits, worth $350 million, to 454 permits, valued at $385 million. Due to increasing concern about the ability of the market to absorb all of the new space, permit activity in fourth quarter 1985 (108 permits at $49 million), was at its lowest level in several years.

The retail market continued to grow during 1985, with a record dollar value of $257 million (985 permits), in contrast to 795 permits valued at $168 million in 1984. Most of the activity was in developing strip, neighborhood and community shopping centers, not large regional centers.

Although the number of hotel/motel permits declined from 53 permits to 39 permits, the dollar value of new projects increased from $58 million to $61 million.

Rest of Arizona. Pima County experienced a 10 percent drop in the value of commercial projects, from $344 million to $308 million. As in Maricopa County, the multifamily sector was the primary source of declining activity. This sector recorded a 37 percent decrease in authorized units, from 8,619 ($186 million) to 5,405 ($139 million). Even with the significantly lower level of activity, the number of multifamily permits again exceeded single family permits (4,160).

Table 1 shows new office building projects worth $104 million ($76 million was recorded in 1984), with $90 million of that total in the city of Tucson. The retail sector rebounded in 1985 ($22 million) from lower activity in 1984 ($13 million) but remained well below the record level of $33 million posted in 1983. The hotel/motel sector fell from 14 permits worth $57 million to 3 permits valued at $24 million.

Unlike multifamily activity in the metropolitan counties, this sectoral

TABLE 1
KEY SECTOR CONSTRUCTION ACTIVITY
1984 and 1985

	SINGLE FAMILY		COMMERCIAL							
			APARTMENTS[a]		OFFICE BUILDINGS[b]		RETAIL STORES[c]		INDUSTRIAL	
	Number of Permits	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*
Maricopa County										
1985	23,143	1,572,602,865	1,513	687,325,334	454	384,594,988	985	257,268,922	602	306,126,441
1984	20,774	1,374,586,500	1,978	929,512,939	382	350,980,149	795	168,105,266	661	223,545,470
Pima County										
1985	4,160	252,427,164	204	139,417,258	121	104,180,842	80	22,369,581	76	36,298,697
1984	4,110	238,515,892	338	185,768,823	120	76,733,411	79	12,519,169	84	28,586,665
Rest of Arizona										
1985	5,968	282,496,084	209	81,277,421	156	16,247,937	315	29,716,524	128	32,463,710
1984	5,961	263,963,225	113	74,346,784	157	14,797,676	340	53,533,586	122	22,700,411
Arizona Total										
1985	33,271	2,107,526,113	1,926	908,020,013	730	505,002,067	1,380	309,355,027	806	379,889,848
1984	30,845	1,877,065,417	2,427	1,189,627,546	659	442,511,263	1,214	234,158,020	867	274,831,546

[a] Five or more housing units.

[b] Office, bank, medical, and professional buildings.

[c] Shopping centers and other mercantile buildings.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

activity in Arizona's other counties increased from 1,500 authorized units ($74 million) to 3,998 units ($81 million). The office building sector remained virtually unchanged at 155 permits valued at $16 million, compared to 157 permits worth $15 million in 1984.

The retail sector registered a strong decrease from $54 million (340 permits) to $30 million (315 permits) in 1985. The hotel/motel sector recorded 27 permits valued at $28 million.

Industrial

Maricopa County. The industrial sector continued the rapid pace of expansion that started in 1983. Although the number of permits declined from 661 to 602, the dollar value grew 37 percent, from $223 million to $308 million. While this level of activity appears to be very strong, the market was dominated by a few large-scale, single-user projects such as those developed by Motorola and McDonnell Douglas Helicopter Corporation. In fact, only five permits accounted for more than $80 million worth of recorded activity.

Rest of Arizona. Industrial development in Pima County continued to improve in 1985, with new projects valued at $39 million, in contrast to a value of $29 million in 1984. Most of the industrial projects were permitted in the unincorporated areas of the county (57 permits worth $33 million), while the city of Tucson had 17 permits valued at $7 million.

Following the same pattern as the metropolitan counties, the dollar value of industrial projects in other Arizona counties grew appreciably, from $23 million to $32 million; the number of permits increased slightly, from 122 in 1984 to 128 in 1985. Casa Grande continued to be the primary location of industrial development outside the metropolitan counties, with 6 permits valued at $17 million.

Other

The final category of construction activity includes permits for both public and private projects. Private sector building projects are as diverse as swimming pools, fences, and churches, while public projects include schools and municipal facilities.

In Maricopa County, the total number of permits remained virtually unchanged at 27,751, while the recorded dollar value jumped 18 percent, from $459 million to $545 million. The greatest increase was for educational facilities: from 51 permits worth $29 million in 1984 to 140 permits valued at $80 million in 1985.

Unlike Maricopa County, Pima County reported declining activity, with a 2 percent decrease in permits (6,843 to 6,687) and a 13 percent decline in dollar value ($133 million to $115 million).

For the non-metropolitan counties, this sector remained very stable in 1985, with projects valued at $89 million, in contrast to $93 million for 1984. As in Maricopa County, educational facilities were a primary building type within this sector.

LOOKING AHEAD

Over the last few years, the Arizona construction industry has exceeded even the most optimistic expectations. A strong level of activity has been evident in all sectors and throughout the state. Growth has been stimulated by an expanding economy and record population increases.

While the Arizona economy is expected to register moderate growth for 1986, construction activity should post a 14.7 percent decline to $4.65 billion. In Maricopa County, total construction activity probably will decrease from $4.0 billion to approximately $3.45 billion. The fundamental reason for the projected decline is the rapid expansion of the last few years. The activity has been driven by record-level construction of apartment and office building projects. Concern has been mounting and evidence seems to confirm that these sectors are overbuilt. Hence, it will take several years to absorb the new space and establish a market that will induce new construction. While other sectors of the industry are not expected to decline, their respective levels of activity are not great enough to overcome the declining office building and apartment sectors.

New retail construction is expected to grow during 1986, supplying space in the new housing areas. As in 1985, the emphasis will be on developing strip, neighborhood and community shopping centers.

Given a growing economy and fairly low vacancy rates, the industrial sector should register a very good year during 1986. The total dollar value of permits, however, could be well below that of 1985 because the large-scale projects that were developed during 1985 are not expected to be a major force in 1986.

The apartment sector could continue to grow in the non-metropolitan counties. Historically, development activity there has accelerated as it declined in the metropolitan counties and developers searched for new areas of opportunity. Further, evidence exists that certain non-metropolitan areas have a definite need for new housing.

Mortgage interest rates have continued to decline in the early part of 1986, with some interest rates below 10 percent. While it is still too early to determine how the market will respond to the lower rates, preliminary evidence indicates the level of response will be stronger than in 1985. Further, lower interest rates coupled with low rates of appreciation have led to much-improved housing affordability. Basically, it appears that the single family market will be good, with construction levels in 1986 comparable to those of 1985.

Construction activity is very closely related to the strength and direction of the economy, and expectations are that the economy will grow at a moderate pace in 1986. Given this expectation and the record levels of recent construction activity, no single sector should dominate; combined, they should produce a good, though not a record, level of activity. Due to the slower economy, construction activity should begin 1986 at a strong pace, slow as the year continues, and finish at a lower level.

—Jay Q. Butler

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TABLE 2
ARIZONA HOUSING UNITS AUTHORIZED: ANNUAL REPORT
January - December 1985

	One Family	*Mobile Homes*	*Duplex*	*3-4 Family*	*5 or More*	*Total*
APACHE COUNTY						
Eagar	40	18	0	0	0	58
St. Johns	3	18	0	0	0	21
Springerville	12	3	0	0	20	35
Unincorporated	53	0	0	0	0	53
Total, Apache County	108	39	0	0	20	167
Percent Change, Previous Year	−20	0	0	—	−54	−24
COCHISE COUNTY						
Benson	4	19	0	0	0	23
Bisbee	13	0	0	0	0	13
Douglas	3	0	0	4	0	7
Huachuca City	0	1	0	0	32	33
Sierra Vista	123	46	0	0	1,010	1,179
Tombstone	3	8	0	4	0	15
Unincorporated	196	223	0	4	5	428
Willcox	2	2	0	0	0	4
Total, Cochise County	344	299	0	12	1,047	1,702
Percent Change, Previous Year	−21	−16	—	300	469	72
COCONINO COUNTY						
Flagstaff	367	88	46	9	516	1,026
Fredonia	0	28	0	0	0	28
Page	23	55	0	0	0	78
Unincorporated	323	269	0	0	0	592
Williams	5	2	0	0	0	7
Total, Coconino County	718	442	46	9	516	1,731
Percent Change, Previous Year	−12	2	−43	−78	189	11
GILA COUNTY						
Globe	5	0	0	0	0	5
Hayden	0	0	0	0	0	0
Miami	0	0	0	0	0	0
Payson	101	92	0	12	40	245
Unincorporated	198	100	4	0	0	302
Total, Gila County	304	192	4	12	40	552
Percent Change, Previous Year	−11	−18	100	−33	−43	−17
GRAHAM COUNTY						
Pima	2	16	0	0	0	18
Safford	28	0	0	4	0	32
Thatcher	18	24	0	0	0	42
Unincorporated	25	127	0	0	0	152
Total, Graham County	73	167	0	4	0	244
Percent Change, Previous Year	2	3	0	−50	0	1
GREENLEE COUNTY						
Clifton	0	0	0	0	0	0
Duncan	0	2	0	0	0	2
Unincorporated	2	0	0	0	0	2
Total, Greenlee County	2	2	0	0	0	4
Percent Change, Previous Year	−33	−33	0	0	0	−33
LA PAZ COUNTY						
Parker	4	9	0	0	0	13
Unincorporated	16	124	0	0	0	140
Total, La Paz County	20	133	0	0	0	153
Percent Change, Previous Year	53	−26	—	—	—	−23
MARICOPA COUNTY						
Avondale	8	115	4	7	226	360
Buckeye	6	52	0	0	0	58
Chandler	2,565	0	0	3	2,429	4,997
El Mirage	6	24	0	0	0	30
Gila Bend	2	0	0	0	0	2
Gilbert	489	0	158	28	764	1,439
Glendale	1,641	374	10	0	1,676	3,701
Goodyear	0	29	0	0	0	29
Guadalupe	8	0	0	0	0	8
Mesa	3,004	0	98	270	5,028	8,400
Paradise Valley	91	0	0	0	0	91
Peoria	1,801	319	90	0	348	2,558
Phoenix	6,738	99	326	621	10,955	18,739
Scottsdale	2,212	2	6	182	1,529	3,931
Surprise	3	24	0	0	0	27
Tempe	967	0	12	111	2,060	3,150
Tolleson	5	0	0	0	0	5
Unincorporated	3,562	1,278	0	31	948	5,819
Wickenburg	25	2	20	4	46	97
Youngtown	10	0	0	0	5	15
Total, Maricopa County	23,143	2,318	724	1,257	26,014	53,456
Percent Change, Previous Year	11	32	25	−50	−24	−10
MOHAVE COUNTY						
Kingman City	197	6	2	0	5	210
Kingman Area	48	222	0	0	5	275
Lake Havasu City	363	19	2	26	119	529
Lake Havasu Area	6	37	0	0	0	43
Bullhead City	310	320	0	88	47	765
Mohave Valley South	71	279	0	0	10	360
Dolan Springs	14	57	0	0	0	71
Sacramento Valley	27	120	0	0	0	147
Mohave General	34	827	0	0	0	861
Total, Mohave County	1,070	1,887	4	114	186	3,261
Percent Change, Previous Year	−18	42	−95	23	−63	−1
NAVAJO COUNTY						
Holbrook	3	0	0	0	0	3
Pinetop-Lakeside	59	17	0	0	24	100
Show Low	201	62	2	0	0	265
Snowflake	11	2	0	0	0	13
Taylor	4	111	0	0	0	115
Unincorporated	351	135	0	0	0	486
Winslow	11	31	0	0	0	42
Total, Navajo County	640	358	2	0	24	1,024
Percent Change, Previous Year	11	297	−79	—	—	50
PIMA COUNTY						
Marana	2	40	0	0	0	42
Oro Valley	90	0	6	0	0	96
South Tucson	8	0	0	0	0	8
Tucson	994	509	232	102	3,824	5,661
Unincorporated	3,066	1,558	0	16	1,581	6,221
Total, Pima County	4,160	2,107	238	118	5,405	12,028
Percent Change, Previous Year	1	−5	−4	−31	−37	−21
PINAL COUNTY						
Apache Junction	111	361	2	12	128	614
Casa Grande	59	0	24	31	794	908
Coolidge	2	22	2	0	0	26
Eloy	2	12	4	0	0	18
Florence	3	36	0	0	0	39
Kearny	0	3	0	0	0	3
Mammoth	0	2	0	0	0	2
Superior	1	0	0	0	0	1
Unincorporated	323	456	40	27	17	863
Total, Pinal County	501	892	72	70	939	2,474
Percent Change, Previous Year	50	3	24	−38	353	56
SANTA CRUZ COUNTY						
Nogales	N/R	N/R	N/R	N/R	N/R	N/R
Patagonia	0	10	0	4	0	14
Unincorporated	96	152	2	9	5	264
Total, Santa Cruz County	96	162	2	13	5	278
Percent Change, Previous Year	1	1,700	—	—	—	167
YAVAPAI COUNTY						
Chino Valley	15	119	0	0	0	134
Clarkdale	46	25	4	43	1	119
Cottonwood	36	12	10	23	70	151
Jerome	3	0	0	0	0	3
Prescott	278	30	14	30	64	416
Prescott Valley	184	71	20	22	0	297
Unincorporated	1,027	846	20	61	90	2,044
Total, Yavapai County	1,589	1,103	68	179	225	3,164
Percent Change, Previous Year	16	72	−2	43	2	30
YUMA COUNTY						
Somerton	46	7	0	0	0	53
Unincorporated	201	591	2	8	6	808
Wellton	1	1	0	0	0	2
Yuma	255	75	4	99	990	1,423
Total, Yuma County	503	674	6	107	996	2,286
Percent Change, Previous Year	9	−14	−62	386	1,114	67
TOTAL, ARIZONA	33,271	10,775	1,166	1,895	35,417	82,524
PERCENT CHANGE, PREVIOUS YEAR	7	18	1	−39	−20	−6

N/R: No Report

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

TABLE 3
ARIZONA BUILDING PERMITS: ANNUAL REPORT
January - December 1985

	Residential*		Commercial		Industrial		Other		Total	
	Number of Permits	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*
APACHE COUNTY										
Eagar	74	2,686,622	4	509,331	0	0	6	11,500	84	3,207,453
St. Johns	22	N/C	2	N/C	0	0	0	0	24	N/C
Springerville	25	250,000	8	121,000	0	0	10	15,000	43	386,000
Unincorporated	72	2,470,210	3	18,250	0	0	4	19,129	79	2,507,589
Total, Apache County	193	5,406,832	17	648,581	0	0	20	45,629	230	6,101,042
Percent Change, Previous Year	−11	37	68	−50	0	0	−31	−79	−9	11
COCHISE COUNTY										
Benson	40	550,350	2	4,000	0	0	33	79,409	75	633,759
Bisbee	59	611,100	1	150,000	0	0	13	748,200	73	1,509,300
Douglas	127	934,609	3	554,107	2	1,134,054	117	2,631,986	249	5,254,756
Huachuca City	52	143,889	3	677,108	1	142,400	9	249,706	65	1,213,103
Sierra Vista	236	5,870,288	31	21,603,259	0	0	797	6,550,733	1,064	34,024,280
Tombstone	31	144,550	3	136,500	0	0	67	550,855	101	831,905
Unincorporated	513	14,638,505	20	9,787,500	4	791,000	102	2,909,878	639	28,126,883
Willcox	33	159,542	5	785,300	3	82,748	71	381,601	112	1,409,191
Total, Cochise County	1,091	23,052,833	68	33,697,774	10	2,150,202	1,209	14,102,368	2,378	73,003,177
Percent Change, Previous Year	−10	−15	−30	12	25	182	−9	28	−10	5
COCONINO COUNTY										
Flagstaff	676	27,981,565	67	11,896,809	9	984,045	240	12,164,294	992	53,028,713
Fredonia	31	15,200	2	24,250	1	5,000	5	6,350	39	50,800
Page	111	1,848,990	6	1,298,217	1	38,000	18	705,054	136	3,890,261
Unincorporated	990	19,763,592	9	3,523,041	2	123,855	183	2,688,773	1,184	26,099,261
Williams	15	374,881	4	182,000	0	0	21	36,450	40	593,331
Total, Coconino County	1,823	49,984,228	88	16,926,317	13	1,150,900	467	15,600,921	2,391	83,662,366
Percent Change, Previous Year	2	−10	−18	−71	−40	−68	0	217	0	−32
GILA COUNTY										
Globe	29	242,302	0	0	0	0	29	24,550	58	266,852
Hayden	2	1,700	0	0	0	0	6	4,500	8	6,200
Miami	12	37,295	2	65,500	0	0	3	10,050	17	112,845
Payson	390	5,538,063	13	1,877,871	13	502,050	65	2,620,542	481	10,538,526
Unincorporated	465	12,192,647	18	1,214,000	0	0	61	982,527	544	14,389,174
Total, Gila County	898	18,012,007	33	3,157,371	13	502,050	164	3,642,169	1,108	25,313,597
Percent Change, Previous Year	−5	17	17	19	−38	−33	1	−41	−4	1
GRAHAM COUNTY										
Pima	41	449,550	1	8,000	0	0	23	67,250	65	524,800
Safford	97	1,293,253	26	347,800	2	29,700	26	2,782,105	151	4,452,858
Thatcher	54	1,444,700	1	15,000	0	0	39	104,200	94	1,563,900
Unincorporated	246	2,759,996	8	125,685	2	101,000	2	3,500	258	2,990,181
Total, Graham County	438	5,947,499	36	496,485	4	130,700	90	2,957,055	568	9,531,739
Percent Change, Previous Year	4	6	−16	−42	−19	−69	45	218	7	22
GREENLEE COUNTY										
Clifton	2	N/C	0	0	0	0	1	100	3	100
Duncan	6	55,900	0	0	0	0	0	0	6	55,900
Unincorporated	3	34,600	0	0	0	0	1	8,100	4	42,700
Total, Greenlee County	11	90,500	0	0	0	0	2	8,200	13	98,700
Percent Change, Previous Year	−8	−23	0	0	0	0	−66	−45	−27	−25
LA PAZ COUNTY										
Parker	43	320,923	10	497,130	1	29,000	62	333,937	116	1,180,990
Unincorporated	201	3,409,805	12	665,880	1	32,320	201	1,339,115	415	5,447,120
Total, La Paz County	244	3,730,728	22	1,163,010	2	61,320	263	1,673,052	531	6,628,110
Percent Change, Previous Year	−26	−12	57	9	−66	−75	115	64	12	0
MARICOPA COUNTY										
Avondale	147	453,475	27	6,765,760	1	11,500	128	3,329,859	303	10,560,594
Buckeye	70	324,100	1	35,000	0	0	16	1,123,500	87	1,482,600
Chandler	2,926	155,161,860	232	96,568,169	25	40,948,062	3,983	44,460,978	7,166	337,139,069
El Mirage	62	830,860	7	2,063,225	0	0	26	583,106	95	3,477,191
Gila Bend	11	111,900	1	23,000	0	0	28	469,905	40	604,805
Gilbert	641	37,760,036	84	25,560,942	12	6,382,037	194	22,525,254	931	92,228,269
Glendale	2,353	106,029,769	182	67,127,688	33	15,278,780	1,373	26,957,332	3,941	215,393,569
Goodyear	53	139,825	2	1,140,000	2	552,320	126	841,816	183	2,673,961
Guadalupe	20	147,248	1	78,189	0	0	3	2,758	24	228,195
Mesa	3,462	209,004,296	385	292,204,102	44	103,261,648	3,331	83,137,940	7,222	687,607,986
Paradise Valley	310	24,238,821	5	2,607,957	0	0	342	8,123,168	657	34,969,946
Peoria	2,540	58,562,622	30	11,168,275	0	0	2,149	6,617,815	4,719	76,348,712
Phoenix	9,837	467,419,960	1,445	616,508,132	162	54,760,709	7,422	204,923,913	18,866	1,343,612,714
Scottsdale	2,529	308,933,479	409	179,954,754	37	18,565,586	2,033	74,344,825	5,008	581,798,644
Surprise	36	485,941	4	3,848,096	0	0	26	283,114	66	4,617,151
Tempe	1,401	88,581,600	366	130,797,060	288	66,684,799	1,169	38,263,600	3,224	324,327,059
Tolleson	14	209,900	2	50,000	1	350,000	3	15,500	20	625,400
Unincorporated	6,970	204,334,434	437	57,300,228	1	1,331,000	5,380	26,346,018	12,788	289,311,680
Wickenburg	40	1,354,325	6	1,494,600	0	0	8	156,480	54	3,005,405
Youngtown	16	354,618	1	133,000	0	0	11	2,609,744	28	3,097,362
Total, Maricopa County	33,438	1,664,439,069	3,627	1,495,428,177	606	308,126,441	27,751	545,116,625	65,422	4,013,110,312
Percent Change, Previous Year	9	14	−19	−10	−8	37	1	18	3	5

Arizona Building Permits: Annual Report (continued)

	Residential*		Commercial		Industrial		Other		Total	
	Number of Permits	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*
MOHAVE COUNTY										
Kingman City	280	6,180,542	17	1,468,675	1	72,000	34	481,060	332	8,202,277
Kingman Area	469	5,781,276	52	750,148	3	1,091,400	339	964,744	863	8,587,568
Lake Havasu City	469	14,964,794	59	10,117,753	1	108,975	195	1,541,547	724	26,733,069
Lake Havasu Area	70	898,533	6	181,693	0	0	70	293,176	146	1,373,402
Bullhead City	958	17,013,906	103	9,419,093	4	194,255	657	2,556,190	1,722	29,183,444
Mohave Valley South	596	9,400,126	42	1,028,157	3	519,000	447	1,780,013	1,088	12,727,296
Dolan Springs	124	1,650,224	15	442,354	0	0	62	304,901	201	2,397,479
Sacramento Valley	228	3,171,119	32	488,870	0	0	125	309,891	385	3,969,880
Mohave General	891	2,345,243	5	28,304	0	0	29	216,469	925	2,590,016
Total, Mohave County	4,085	61,405,763	331	23,925.047	12	1,985,630	1,958	8,447,991	6,386	95,764,431
Percent Change, Previous Year	0	−18	−9	−45	33	20	−17	−26	−6	−27
NAVAJO COUNTY										
Holbrook	13	148,920	2	253,000	0	0	9	76,642	24	478,562
Pinetop-Lakeside	110	2,396,384	16	953,385	2	52,045	112	1,086,335	240	4,488,149
Show Low	316	6,795,071	4	202,685	2	112,106	88	432,328	410	7,542,190
Snowflake	16	N/C	1	N/C	0	0	1	N/C	18	N/C
Taylor	128	161,500	0	0	0	0	4	1,800	132	163,300
Unincorporated	758	14,614,313	18	1,062,993	0	0	48	1,724,096	824	17,401,402
Winslow	70	746,229	4	1,696,530	0	0	15	165,200	89	2,607,959
Total, Navajo County	1,411	24,862,417	45	4,168,593	4	164,151	277	3,486,401	1,737	32,681,562
Percent Change, Previous Year	24	0	50	10	33	75	77	53	31	6
PIMA COUNTY										
Marana	45	N/C	0	0	1	N/C	12	N/C	58	N/C
Oro Valley	109	4,674,348	3	2,179,009	0	0	56	439,108	168	7,292,465
South Tucson	16	258,670	3	127,544	1	71,179	18	155,359	38	612,752
Tucson	3,798	75,908,114	251	213,475,384	17	6,569,618	3,886	76,678,206	7,952	372,631,322
Unincorporated	6,142	203,863,600	238	92,266,100	57	32,658,900	2,715	38,045,100	9,152	366,833,700
Total, Pima County	10,110	284,704,732	495	308,048,037	76	39,299,697	6,687	115,317,773	17,368	747,370,239
Percent Change, Previous Year	2	5	−27	−10	−9	37	−2	−13	0	−3
PINAL COUNTY										
Apache Junction	559	13,835,866	38	3,885,168	1	28,874	469	1,636,038	1,067	19,385,946
Casa Grande	116	6,025,291	63	21,589,192	6	16,771,454	109	3,507,108	294	47,893,045
Coolidge	48	569,450	0	0	1	9,500	12	45,910	61	624,860
Eloy	31	155,200	5	1,445,646	0	0	29	3,202,080	65	4,802,926
Florence	65	490,550	3	15,500	0	0	11	13,645	79	519,695
Kearny	11	12,300	0	0	0	0	6	9,100	17	21,400
Mammoth	2	N/C	0	0	0	0	4	N/C	6	N/C
Superior	8	29,800	1	700	0	0	18	21,695	27	52,195
Unincorporated	996	13,725,885	30	4,846,550	8	486,000	660	2,461,263	1,694	21,519,698
Total, Pinal County	1,836	34,844,342	140	31,782,756	16	17,295,828	1,318	10,896,839	3,310	94,819,765
Percent Change, Previous Year	17	65	20	147	77	45	27	−22	21	58
SANTA CRUZ COUNTY										
Nogales	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Patagonia	17	183,496	2	144,140	0	0	21	72,628	40	400,264
Unincorporated	257	5,279,551	4	330,000	1	706,000	17	403,735	279	6,719,286
Total, Santa Cruz County	274	5,463,047	6	474,140	1	706,000	38	476,363	319	7,119,550
Percent Change, Previous Year	115	1	—	—	0	101	−4	−86	89	−24
YAVAPAI COUNTY										
Chino Valley	189	1,431,891	10	301,164	0	0	38	562,692	237	2,295,747
Clarkdale	93	3,170,898	19	1,613,808	0	0	34	268,552	146	5,053,258
Cottonwood	107	2,407,367	24	3,002,078	8	1,419,281	53	2,793,322	192	9,622,048
Jerome	13	69,600	1	45,000	0	0	7	7,700	21	122,300
Prescott	522	17,636,884	33	6,380,277	6	624,414	456	8,067,343	1,017	32,708,918
Prescott Valley	331	8,485,272	20	965,240	1	42,000	56	398,714	408	9,891,226
Unincorporated	2,244	70,495,126	77	18,783,560	3	435,500	372	4,023,173	2,696	93,737,359
Total, Yavapai County	3,499	103,697,038	184	31,091,127	18	2,521,195	1,016	16,121,496	4,717	153,430,856
Percent Change, Previous Year	22	18	1	32	0	179	−21	14	8	22
YUMA COUNTY										
Somerton	77	2,218,239	5	113,164	1	85,000	17	95,110	100	2,511,513
Unincorporated	994	24,539,950	55	4,731,965	18	2,940,719	286	3,118,913	1,353	35,331,547
Wellton	4	59,500	1	N/C	0	0	1	800	6	60,300
Yuma	522	17,420,597	145	34,007,243	12	2,770,015	281	8,456,879	960	62,654,734
Total, Yuma County	1,597	44,238,286	206	38,852,372	31	5,795,734	585	11,671,702	2,419	100,558,094
Percent Change, Previous Year	0	4	157	187	54	201	17	−49	9	24
TOTAL, ARIZONA	60,948	2,329,879,321	5,298	1,989,859,787	806	379,889,848	41,845	749,564,584	108,897	5,449,193,540
PERCENT CHANGE, PREVIOUS YEAR	7	11	−15	−9	−7	38	0	9	3	3

*Includes mobile homes.

N/R: No Report

N/C: Some communities do not collect dollar valuations

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

"Real Estate," from page 1

1985 and January 1986 by *Metro Phoenix* magazine and the Arizona Real Estate Institute in the ASU College of Business.

ECONOMIC OUTLOOK

Respondents expect economic conditions during 1986 to be comparable to those achieved in 1985. This year's outlook is similar to that for 1985, as shown in Table 1, though the expectation of stability is more prevalent than in any prior survey. Generally, slightly better conditions are foreseen for the Phoenix economy in 1986 (63 percent of respondents), but slightly worse performance is anticipated nationally — only 47 percent are confident that the federal government's economic policy will lead to an improving economy.

Projections of specific indicators are illustrated in Table 2. Respondents expect stability in the Phoenix inflation rate; only 30 percent are confident that inflation will decline in 1986. They also believe that the Phoenix area unemployment rate will creep up from still-low levels. Their outlook on interest rates is mixed, but not much change in either direction is foreseen during 1986.

REAL ESTATE OUTLOOK

In keeping with the stable forecast for the general economy, the outlook for the local real estate market in 1986 is similar to that in 1985. While 58 percent of the respondents are confident that the real estate market in general will improve during 1986, confidence levels are lower for the new home market (51 percent). A fundamental concern is that only 42 percent of respondents express confidence in mortgage interest rates declining by the end of 1986. However, as seen in Table 2, the rates are not expected to rise much higher than they were at the end of 1985 when the survey was conducted.

Respondents expect other measures of real estate activity to be similar in 1986 to 1985. They foresee home prices continuing to rise relatively slowly — in fact, even more slowly — in 1986. Sales of existing homes should be unchanged, as should the number of new single family home starts. The respondents' expectations of 20,000 to 25,000 starts approximates the 23,000 homes permitted during 1985, though the survey of one year ago revealed greater optimism (25,000 to 30,000 starts). The outlook is also stable for the rental market, with rental increases expected to remain moderate and vacancy rates to be near the current high levels.

Respondents reserve the most optimism for the performance of their own firm: 77 percent are confident that their business activity will improve during 1986, and they anticipate a median increase of 10 percent.

SUMMARY

Although the 1986 survey respondents are not as optimistic as those who responded to the 1985 survey, they foresee a year comparable to 1985. Given that, in most areas of real estate, 1985 ended with results exceeding most expectations, an outlook of stability for 1986 is tantamount to a prediction of another good year for the real estate industry.

—Jay Q. Butler

Dr. Butler is Associate Professor of Real Estate in the College of Business, Arizona State University. He also serves as Director of the Arizona Real Estate Institute.

TABLE 1
REAL ESTATE INDUSTRY SURVEY
ECONOMIC OUTLOOK SCORES*

Economic Variable	*1986*	*1985*
Consumer confidence	57	55
Phoenix area economy	65	59
Retail sales	58	54
National economy	49	45
Phoenix employment	58	56
National employment	46	43
Business confidence	54	53

* Metropolitan Phoenix real estate industry representatives had three reply options to each survey question: Higher, Same or Lower. The score for each question was calculated by averaging the weighted replies. The weights: Higher - 100; Same - 50; Lower - 0. Scores may range from 0 to 100, with higher scores reflecting a greater degree of optimism. Scores near 50 indicate an expectation of no change; scores above 50 indicate expected improvement, and scores below 50 indicate expected worsening.

Source: Survey conducted by the Arizona Real Estate Institute in the College of Business, Arizona State University; in cosponsorship with *Metro Phoenix* magazine, December 1985 and January 1986.

TABLE 2
REAL ESTATE INDUSTRY SURVEY
1986 CONSENSUS OUTLOOK COMPARED TO ACTUAL 1985
Metropolitan Phoenix

		Percentage Rate	
Variable	*1985 Projection*	*Actual Year-end, 1985*	*1986 Projection*
Conventional mortgage rate	13.0	10.75	11.5
FHA mortgage rate	12.5	10.5	11.0
Prime interest rate	11.0	9.5	9.0
Commercial interest rate	13.0	N/A	12.0
Six-month Treasury Bill rate	9.6	7.1	8.0
Inflation rate (Metropolitan Phoenix)	5.0	3.8	4.0
Apartment vacancy rate	9.0	10.0	11.0
Unemployment rate (Metropolitan Phoenix)	5.0	5.1	6.0
		Percent Change	
	1985 Projection	*Actual 1985*	*1986 Projection*
Resale home prices	4.9	3.2	2.0
New home prices	5.4	8.1	5.0
Land prices	9.9	N/A	8.0
Level of firm's activity	10.4	N/A	10.0
Resale home market activity	9.6	3.8	0.0
Monthly rent for apartments	5.1	4.0	3.0

N/A = Not Available

Source: Bureau of Business and Economic Research and Arizona Real Estate Institute, College of Business, Arizona State University.

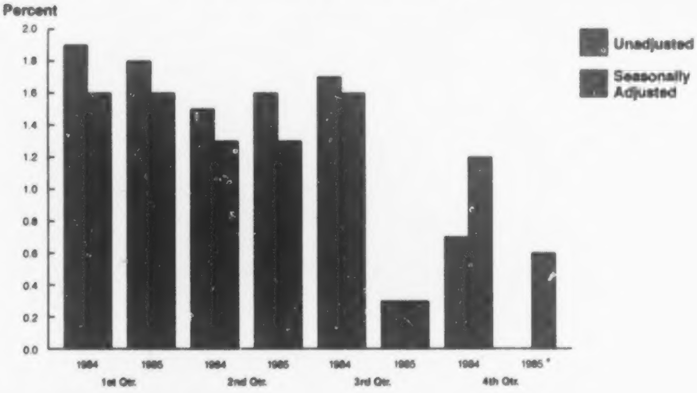
Seasonal Adjustment to CPI Smooths Inflation Rate

An accurate interpretation of shifts in the inflation rate can be hampered by seasonality of price changes. Prices of many items, such as electricity rates, regularly increase or decrease by larger-than-average amounts at certain times of the year. To minimize the effect of such predictable behavior, many economic series, including the Consumer Price Index (CPI), are reported on a seasonally adjusted basis.

Previously, the Metropolitan Phoenix Consumer Price Index was not seasonally adjusted because several years of historical data are required to be confident of seasonal patterns. At least seven years of data are now available for nearly all 298 categories that constitute the Phoenix CPI (with the exception of a few categories that were newly created in the 1983 revision).

Only quarterly percent changes have been seasonally adjusted; the inflation rate measured over a one-year span is unaffected by seasonality. To avoid confusion, index values were not seasonally adjusted. Thus, the only alteration to upcoming quarterly CPI reports will be the presentation of seasonally adjusted, rather than unadjusted, quarterly percent changes.

FIGURE I
METROPOLITAN PHOENIX CONSUMER PRICE INDEX
Quarterly Percent Change



*Unadjusted fourth quarter 1985 value was 0.0.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank.

TABLE 1
COMPARISON OF SEASONALLY ADJUSTED AND UNADJUSTED PERCENT CHANGES IN THE METROPOLITAN PHOENIX CONSUMER PRICE INDEX

	Percent Change from Preceding Quarter							
Expenditure Category	*1st 1984*	*2nd 1984*	*3rd 1984*	*4th 1984*	*1st 1985*	*2nd 1985*	*3rd 1985*	*4th 1985*
ALL ITEMS	1.9	1.5	1.7	0.7	1.8	1.6	0.3	0.0
Seasonally adjusted	1.6	1.3	1.6	1.2	1.6	1.3	0.3	0.6
Food and Beverages	1.8	0.7	1.0	0.2	2.6	1.1	−0.7	1.6
Seasonally adjusted	0.9	0.6	1.5	0.9	1.6	0.9	−0.1	2.3
Housing	0.6	2.0	2.3	−0.1	1.2	1.4	2.2	−1.4
Seasonally adjusted	0.7	1.2	1.9	0.9	1.2	0.6	1.8	−0.4
Apparel and Upkeep	2.5	−1.3	−0.1	0.4	2.2	3.1	−2.5	2.7
Seasonally adjusted	2.2	−1.4	0.6	0.0	1.8	3.3	−1.9	2.5
Transportation	1.6	2.3	1.2	2.2	1.7	2.8	−2.2	−0.9
Seasonally adjusted	2.0	1.7	1.2	2.6	2.0	2.0	−2.1	−0.6
Medical Care	11.4	1.1	3.0	2.7	3.4	1.3	2.3	1.6
Seasonally adjusted	10.2	2.4	2.3	2.9	2.6	2.7	1.6	1.8
Entertainment	1.1	2.3	2.6	0.3	4.6	0.2	2.4	6.8
Seasonally adjusted	−0.3	5.4	2.3	−0.9	2.9	3.5	2.1	5.3
Other Goods and Services	0.8	1.1	2.1	1.2	1.4	1.7	0.3	0.9
Seasonally adjusted	1.3	1.0	1.7	1.4	1.7	1.7	−0.2	1.2

Source: Bureau of Business and Economic Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank.

SEASONAL PATTERNS

Inflation in the Phoenix area follows a seasonal pattern. Rates in the first two quarters of any year typically are higher than the average quarterly rate for the year; the pace in the fourth quarter usually is slower than average. Seasonal adjustment reduces these variations, as illustrated in Figure I and Table 1. On a seasonally adjusted basis, inflation during 1984 and the first half of 1985 was remarkably stable, ranging between 1.2 and 1.6 percent per quarter. A noticeable slowing occurred during the second half of 1985.

Every subcategory of the CPI has a unique seasonal pattern. Even the major categories shown in Table 1 exhibit seasonal patterns different from each other and from the total index. Price increases for food and beverages usually are largest in the first quarter and smallest in the third and fourth quarters. Housing prices generally rise most rapidly during the second quarter and least rapidly during the fourth quarter. Little seasonality is apparent in transportation costs.

—**Tom R. Rex**
Research Manager

February Purchasing Indicators Poised for Rapid Advance

The tempo of the economy increased in February, and the growth rate appears poised for a shift into high gear. The first two months of the new year were much stronger than those at the close of 1985. New orders received from customers, a key leading indicator, advanced in February to its highest rate in more than a year (see Table 1). Production followed along, registering its highest monthly jump since February 1985. Price increases continued to moderate, and inventory rebuilding appeared to be underway, triggered by the higher new order and production rates.

The first quarter's economic improvement now is assured. The acceleration seen in January and February likely will continue and intensify. Lower interest rates and the inventory rebuilding needed to support higher output rates will provide further stimulus to economic growth. In addition, the falling value of the dollar eventually will reduce the volume of imports, helping to build manufacturing volume in Arizona firms. The lower inflation rate, aided by falling energy costs, will provide a measure of stability that will extend the expansion even further. The Arizona economy will move to new, higher ground during the first half of 1986.

PRICES

Prices paid for major purchased items increased again in February but at a slower rate than in January, as the Arizona economy continued to enjoy a moderate inflation rate. Fears of a resumption of the high inflation rate of past years are largely unfounded, as only small price increases have been recorded over the past year. It may take time for the lower costs of energy to work through the system, but this should assure a degree of price stability during 1986 that will permit a continuation of the orderly economic expansion.

DELIVERY TIME

Delivery time on shipments from vendors continued to stretch, at the same rate as in January. The lead time increase in each of the past five months has been larger than in any of the first nine months of 1985. As economic activity continues to accelerate, the higher vendor operating rates will result in even longer lead times.

INVENTORIES

Inventory levels of purchased materials went up in February, following January's slight drop. After decreasing in four of the past five months, inventory levels are low relative to the expanding rate of production. This condition appears to be triggering some rebuilding, which will further stimulate the expansion.

NEW ORDERS

New orders booked by Arizona firms rose sharply again in February, the 38th consecutive monthly advance. The net new order growth rate in February was the largest since June 1984 (20 months ago), providing further evidence that the economic growth curve is steadily tilting upward.

PRODUCTION

Production also increased sharply in February, following closely the new order growth curve. This was the 38th consecutive monthly production increase and the largest since February 1985.

EMPLOYMENT

Employment went up again in February, at a rate slightly greater than in the previous month. This was the largest jump since August and the 14th consecutive monthly increase. The higher new order and production rates will result in further additions to the Arizona work force over the next several months.

PURCHASES

Purchases of materials and services by Arizona firms advanced again, at about the same rate as in January. The purchase commitment rate held at its highest level of the past 1½ years and is providing continuing stimulus to the growing economic expansion.

— Harold Fearon

Dr. Fearon is chairman of the Department of Purchasing, Transportation, Operations in the ASU College of Business and is the National Association of Purchasing Management Professor.

Arizona Purchasing Survey

Now in its 24th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity — higher, unchanged, or lower — of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

TABLE 1
FEBRUARY PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (February compared to January)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	21	68	11
Delivery time from vendors	26	63	11
Purchased materials inventory level	29	50	21
New orders received	46	35	19
Production	46	38	16
Employment	27	57	16
Purchases	43	40	17

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

Arizona Leading Index Slips in January

The Arizona Index of Leading Economic Indicators fell slightly in January, following a moderate gain in December (see Figure I). January's 0.2 percent decline lowered the index to 106.2 from a revised all-time high of 106.4 in December.

Only three index components rose in January, matching the lowest diffusion index since summer 1984. However, the gain in residential building permits was the second largest since 1982. The increase in average hours worked in the manufacturing industry, though relatively large, did not offset the consecutive declines between October and December.

A sharp rise in first-time unemployment insurance claims (a negative indicator), the second largest since 1982, pulled down the January index. In addition, the net decline in five components derived from a survey of Arizona purchasing managers was larger than in all but one month since 1981. The national money supply (M2) also fell slightly - its third such decline of the last four months (see Table 1).

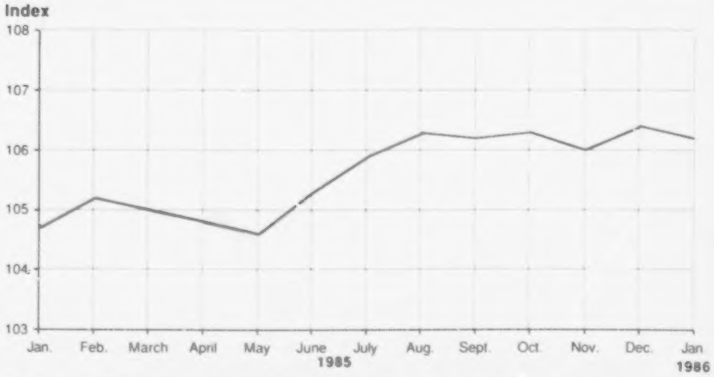
OUTLOOK

The leading index's up-and-down pattern since the beginning of 1984 suggests that moderate but somewhat inconsistent economic growth should persist in Arizona through 1986. Largely due to sharper gains in the index last summer, economic growth should slightly exceed that of 1985.

While the national Index of Leading Economic Indicators slipped in January, the revised December gain was very large. Thus, the net increase of the two months continued the pattern of moderate gains of the preceding several months. More information on the national leading index and on the outlook is included in the forecast article that begins on page 1.

—**Tom R. Rex**
Research Manager

FIGURE I
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution$^+$			
	Oct.	*Nov.*	*Dec.*	*Jan.*
Delivery Time*	.14	−.02	.09	−.08
Inventory Levels*	.01	.03	.00	−.05
New Orders*	−.01	.10	.05	−.07
Production*	−.05	.01	.14	−.06
Employment*	.07	.08	−.01	−.04
Residential Building Permits	−.13	−.25	.10	.31
Unemployment Insurance Claims	.19	−.15	.00	−.23
Average Workweek, Manufacturing	−.07^r	−.05^r	−.14^r	.18
Money Supply	−.07^r	−.05^r	.09^r	−.09
Change in Sensitive Materials Prices	.07^r	.01^r	.00^r	.01
OVERALL INDEX	.15^r	−.28^r	.32^r	−.12

^{r}Revised

$^+$The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

*Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

'85 Index Available

An index to the 1985 issues of *Arizona Business* is available on request from the Bureau of Business and Economic Research by calling (602) 965-3961.

Update Your Mailing Label(s)

By early April, *Arizona Business* readers will receive a form on which to update their mailing label(s). This form must be completed and returned to us within 15 days of receipt, or your label will be removed from the mailing list.

The form also will include a three-question reader survey. By checking the appropriate boxes, you will aid us in planning an upcoming series of reader surveys on current issues of interest to the business/governmental communities.

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date Value	Year-to-Date Percent Change from Year Ago
GROSS STATE PRODUCT (In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	3rd Qtr.	45.543	6.7	7.9	NA	NA
Arizona - 1972 Dollars	3rd Qtr.	21.507	6.1	4.4	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	4th Qtr.	191.5	0.0	3.8	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	Jan.	106.2	−0.2	1.4	NA	NA
BUILDING PERMITS (Total Dollar Value in Thousands)						
Maricopa County	Dec.	251,493	18	−1	4,013,110	5
Pima County	Dec.	30,517	−30	−52	747,370	−3
Balance of State	Dec.	42,808	8	−4	688,714	2
Arizona	Dec.	324,818	9	−11	5,449,194	3
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	Dec.	2,806	−2	−13	53,456	−10
Pima County	Dec.	477	9	−47	12,028	−21
Balance of State	Dec.	1,051	−6	18	17,040	29
Arizona	Dec.	4,334	−2	−13	82,524	−6
HOME SALES						
Maricopa County - Number	Jan.	3,785	−30	19	3,785	19
Maricope County - Median Price	Jan.	73,000	−5.1	0.3	73,000	0.3
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix - New Homes	4th Qtr.	80	−1.2	5.3	NA	NA
Metropolitan Phoenix - Resale Homes	4th Qtr.	93	3.3	13.4	NA	NA
MORTGAGE INTEREST RATES (Conventional, 30-year, Fixed-rate)						
Maricopa County	Jan.	10.8	−1.8	*	NA	NA
Maricopa County	Feb.	10.5	−2.8	*	NA	NA
POPULATION ESTIMATES (In Thousands)						
Maricopa County	4th Qtr.	1,856	1.1	4.9	NA	NA
Arizona	4th Qtr.	3,294	1.0	4.1	NA	NA
ELECTRICAL POWER SALES (In Millions of Kilowatt Hours)						
Arizona	Jan.	2,690.0	−3.7	−2.2	2,690.0	−2.2

NA = Not Applicable

* = Not Available

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

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BUREAU OF BUSINESS AND ECONOMIC RESEARCH

Valley Inflation Still Zero

For the second successive quarter, no inflation was measured in the Phoenix metropolitan area during first quarter 1986. From first quarter 1985, prices of goods and services rose just 2.0 percent to an index value of 191.6 (1977 = 100).

On a seasonally adjusted basis, slight deflation (-0.2 percent) was recorded, following small increases of 0.3 and 0.6 percent in the prior two quarters (see Table 1). The quarterly changes had ranged between 1.2 and 1.6 percent throughout 1984 and the first half of 1985.

COMPONENT INDEXES

The decline in oil prices was the greatest, but not the only, factor causing inflation to decelerate.

Gains during the last 12 months in all major categories except entertainment were smaller than they had been just three quarters earlier (see Figure I). The annual inflation rate through first quarter 1986 was only one-third the 6 percent rate that had prevailed throughout 1984 and the first half of 1985.

See "CPI," page 2

In This Issue

4 Valley Home Features in '85
5 No. of AZ Businesses in '84
6 March Purchasing Survey
7 AZ Leading Index, February
8 AZ Economic Indicators

1985 Home Sales Uneven Valleywide

Home sales in the Phoenix metropolitan area in 1985 nearly equaled the number of 1984 sales, but this stability did not encompass all Valley cities. The number of sales in Peoria, for example, jumped 21 percent, while declines between 10 and 16 percent occurred in Chandler, Gilbert and Sun City West (see Table 1). In each of the latter three cities, the decline followed an unusually large gain in 1984.

With 42 percent of the Valley's home sales, Phoenix again dominated in 1985. Mesa, the second-largest city, accounted for 15 percent of all sales. A particularly large share of new townhouse and condominium sales occurred in Mesa and Tempe; with 833, Mesa's total nearly equaled that of Phoenix. New single family home sales made up a disproportionately large share of all sales in Peoria and Sun City West.

HOME PRICES

Price changes in 1985 also varied widely by city, ranging from increases of 10 percent in Scottsdale, Peoria and Sun City West to virtually no change in Tempe and Sun City.

See "Home Sales," page 4

ARIZONA BUSINESS

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TABLE 1
PERCENT CHANGES IN METROPOLITAN PHOENIX CONSUMER PRICE INDEX

		Seasonally Adjusted from Preceding Quarter				
Expenditure Category	*Relative Importance*	*1st 1985*	*2nd 1985*	*3rd 1985*	*4th 1985*	*1st 1986*
ALL ITEMS	100.0	1.6	1.3	0.3	0.6	-0.2
Food and Beverages	18.7	1.6	0.9	-0.1	2.3	0.5
Housing	39.5	1.2	0.6	1.8	-0.4	0.7
Apparel and Upkeep	4.8	1.8	3.3	-1.9	2.5	-3.3
Transportation	21.2	2.0	2.0	-2.1	-0.6	-2.5
Medical Care	6.9	2.6	2.7	1.6	1.8	1.3
Entertainment	4.6	2.9	3.5	2.1	5.3	-1.7
Other Goods and Services	4.3	1.7	1.7	-0.2	1.2	1.7

TABLE 2
METROPOLITAN PHOENIX CONSUMER PRICE INDEX
First Quarter 1986

	Index (1977=100)		Percent Change from	
Expenditure Category	*Last Quarter*	*This Quarter*	*Last Quarter* *	*Year-Ago Quarter*
ALL ITEMS	191.5	191.6	-0.2	2.0
Food and Beverages	173.7	176.5	0.5	3.6
Food	174.0	176.8	0.5	3.3
Food at Home	170.9	174.7	0.7	3.1
Cereal and Bakery Products	188.5	194.5	1.8	6.1
Meats, Poultry, Fish, and Eggs	156.6	156.9	0.3	-1.8
Dairy Products	160.4	162.9	1.2	2.7
Fruits and Vegetables	190.6	186.9	-4.7	2.4
Other Food at Home	160.0	168.8	3.7	7.2
Food Away from Home	177.2	178.1	0.0	3.7
Housing	199.1	200.3	0.7	2.7
Shelter	215.4	217.2	0.8	3.8
Renters' Costs**	116.4	116.6	0.4	3.3
Homeowners' Costs**	108.3	109.5	1.1	4.2
Fuel and Other Utilities	168.4	164.2	-1.7	-1.4
Gas (piped) and Electricity	182.8	174.1	-3.4	-3.5
Household Furnishings/Operations	150.7	154.5	2.6	2.1
Apparel and Upkeep	148.1	144.0	-3.3	0.0
Transportation	186.0	180.9	-2.5	-3.1
Private Transportation	182.4	178.0	-2.4	-2.9
New and Used Cars	190.2	190.0	-1.3	-5.0
Motor Fuels	189.4	173.6	-4.5	-10.3
Public Transportation	244.1	227.8	-4.6	-6.0
Medical Care	261.2	266.8	1.3	7.5
Entertainment	197.2	197.1	-1.7	9.4
Other Goods and Services	173.4	175.9	1.7	4.4

*Seasonally adjusted. **Base period is second quarter 1983.

TABLE 3
METROPOLITAN PHOENIX CONSUMER PRICE INDEX UNITED STATES AND COMPARATIVE CITIES
First Quarter 1986

	Percent Change from Last Quarter*		Percent Change from One Year Ago			
Expenditure Category	*Phoenix*	*United States*	*Phoenix*	*United States*	*Denver*	*San Diego*
ALL ITEMS	0.0	0.3	2.0	3.2	3.9	4.9
Food and Beverages	1.6	1.4	3.6	2.1	2.8	3.6
Housing	0.6	0.4	2.7	3.8	4.4	7.6
Apparel and Upkeep	-2.8	-3.4	0.4	1.1	-0.4	0.0
Transportation	-2.8	-1.2	-3.1	1.6	3.7	2.3
Medical Care	2.1	2.3	7.5	7.2	8.2	5.6
Entertainment	-0.1	1.1	9.4	4.1	3.4	3.1
Other Goods and Services	1.5	1.5	4.4	6.2	4.9	3.8

*Not seasonally adjusted.

Source (Tables 1, 2 and 3): Metropolitan Phoenix data compiled by the Bureau of Business and Economic Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank; other data in Table 3 are from the U.S. Department of Labor, Bureau of Labor Statistics.

"CPI," from page 1

Food and Beverages

Prices of food and beverages rose a slight 0.5 percent (seasonally adjusted). After steady gains during the last two years, prices of food away from home did not change. Grocery store prices advanced 0.7 percent, but wide variations occurred among the food groups (see Table 2).

Partially offsetting a large fourth quarter 1985 gain, a 5 percent drop in fruit and vegetable prices resulted from declines in both the fresh fruit and fresh vegetable categories. After three successive quarterly declines, a slight gain was recorded in the prices of meats, poultry, fish and eggs. However, prices in every subgroup - beef, pork, other meats, poultry, fish and seafood, and eggs - were lower than they were one year earlier. The greatest grocery store increase occurred in prices of other-food-at-home items, primarily a result of a 27 percent jump in coffee prices.

Housing

Housing costs rose 0.7 percent, reversing the decline of fourth quarter 1985. Apartment rents did not change, after a slim advance the prior quarter. Rental increases were held down by the high vacancy rates resulting from the boom in apartment construction.

Prices of fuel and other utilities declined for the second successive quarter and were lower than they had been one year earlier. Natural gas rates dropped for the sixth straight quarter.

A relatively large gain was recorded in the category of household furnishings and operations. Inflation was the greatest in more than two years for furniture, household appliances, and radios and televisions.

Transportation

This category swung from annual inflation of 8 percent to deflation of 3 percent in just three quarters. Declining subcategories were numerous.

New car prices fell slightly in the first quarter and were only 2 percent higher than they were during first quarter 1985. Used car prices declined for the fifth consecutive quarter, following a string of large increases in 1983-84. Gasoline prices dropped nearly 5 percent in the first quarter; further decreases are certain during second quarter 1986. Prices already were 10 percent lower than the level of one year earlier.

Other categories recording deflation during the last 12 months include vehicle parts and equipment (despite a large gain in first quarter 1986), vehicle maintenance and repair, vehicle finance charges, and public transportation.

Medical Care

Medical care inflation continued to slow, with a 1.3 percent advance, but this category still experienced the second highest inflation rate of the major categories. Much of the slowdown can be attributed to health insurance premiums, which have dropped from a nearly 50 percent inflation rate in 1984 to a 4 percent rate in the first quarter. Increases in hospital costs remained relatively moderate: 1.3 percent in the first quarter and 7.6 percent during the last 12 months. However, increases in the costs of professional services and prescription drugs were at double-digit annual rates.

Other Categories

Clothing prices fell 3.3 percent in the first quarter, negating the gain of the prior quarter. Entertainment costs also decreased but still were nearly 10 percent higher than they were one year earlier. Both reading materials and toys and hobbies experienced double-digit inflation.

COMPARISON AREAS

For the third consecutive quarter, the inflation rate in the Phoenix area was less than the national average (see Table 3). Advances in the Valley were comparable to those nationally in each major category except transportation and entertainment, in which deflation occurred locally.

The percent change from one year earlier was less than the national average for the first time since late 1983. Denver and San Diego, the comparison areas, also experienced higher inflation rates. Increases in housing and in transportation were less in the Valley than in each comparison area.

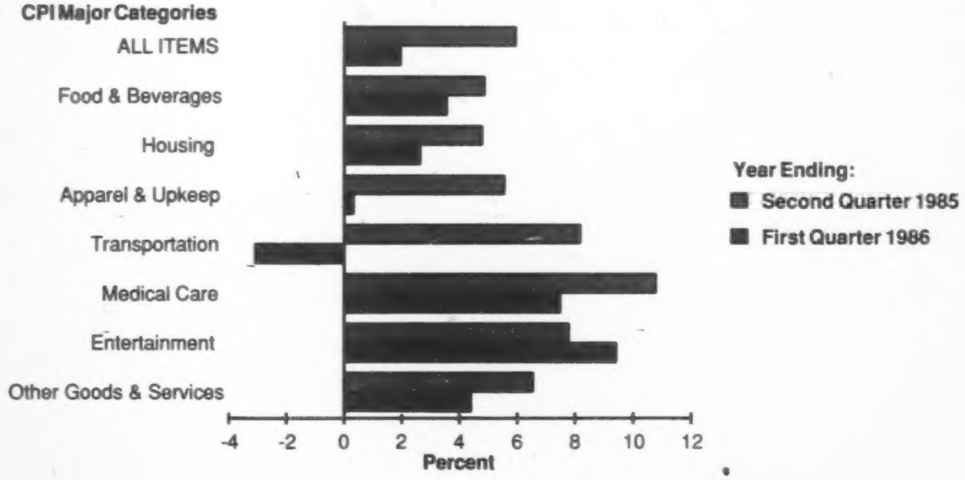
OUTLOOK

The recent inflation experience and the near-term outlook are more favorable than at any time since the mid-1960s, forcing further downward revisions to inflation forecasts. In the Phoenix area, at least one more quarter of slow inflation is likely, lowering the annual rate to less than 2 percent. However, acceleration is likely during the second half of 1986 and into 1987 if oil prices stop dropping and recover somewhat as expected. The falling dollar should cause rising price inflation in other goods.

The 1986 annual average inflation rate for metropolitan Phoenix should be less than 3 percent; it could fall to less than 2 percent. Such a rate should be equal to or less than the national average. However, a return to 6 percent inflation in 1987 remains possible.

— **Tom R. Rex**
Research Manager

FIGURE I
ANNUAL INFLATION RATE
Metropolitan Phoenix



Source: Bureau of Business and Economic Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank.

"Home Sales," from page 1

A decline in Fountain Hills offset that town's large advance of 1984, demonstrating the erratic nature of median prices in areas where relatively few homes are sold.

Looking only at resale homes, which accounted for three-fourths of all sales in the Valley, and controlling for differences in the size of homes sold, presents a much different picture of price increases in 1985. The median price per square foot rose just 1.7 percent Valleywide. Declines occurred in Sun City and Paradise Valley, though the latter city experienced large gains in each of the prior three years. The greatest advances - just 6 percent - occurred in the rapidly growing cities of Chandler, Gilbert and Peoria.

The median sales price in 1985 exceeded $200,000 in Paradise Valley and $100,000 in Scottsdale but was less than $70,000 in Gilbert, Phoenix and Sun City. The same cities ranked near the top and bottom on a price-per-square-foot basis, as shown in Figure I.

Among the Valley's smaller towns, prices varied even more widely. These towns' median sales price and median price per square foot were usually less than those of the entire county, including values of less than $40,000 and $35 per square foot in El Mirage and Surprise. In contrast, the median sales price was nearly $100,000 in both Litchfield Park and the Carefree/Cave Creek area; the price per square foot in Carefree/Cave Creek was second only to that in Paradise Valley.

— **Tom R. Rex**
Research Manager

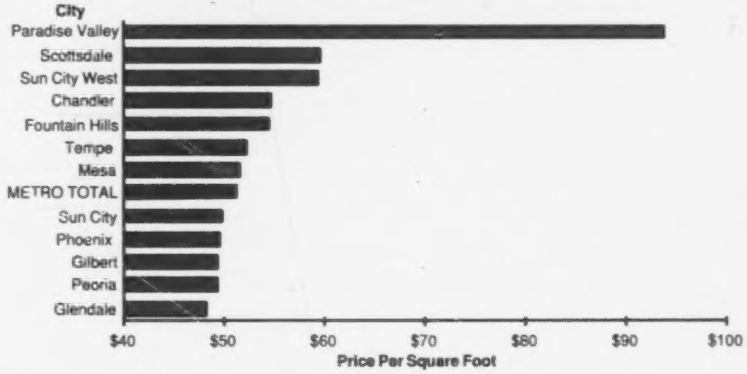
TABLE 1
1985 HOME SALES, MEDIAN SALES PRICE, AND PERCENT CHANGE FROM 1984
Metropolitan Phoenix, by City

City	*Number of Sales*	*Percent Change*	*Median Sales Price*	*Percent Change*
Chandler	3,455	-12%	$82,875	7.2%
Fountain Hills	317	13	80,000	-5.3
Gilbert	178	-16	67,000	3.2
Glendale	3,108	-1	74,950	4.1
Mesa	8,329	6	71,475	2.6
Paradise Valley	285	-8	252,500	5.9
Peoria	1,703	21	74,475	9.6
Phoenix	23,671	1	68,700	2.7
Scottsdale	4,202	2	100,650	10.0
Sun City	1,551	-7	67,000	-0.7
Sun City West	1,112	-16	90,000	9.9
Tempe	3,051	-3	76,000	0.1
MARICOPA COUNTY TOTAL*	56,380	1	74,000	4.2

*Total does not add to sum of cities because of exclusion from table of small cities and unincorporated areas.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

FIGURE I
MEDIAN PRICE PER SQUARE FOOT OF RESALE HOMES SOLD
Metropolitan Phoenix, 1985



Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

Features of Homes Sold in '85 Similar to '84

Stable conditions characterized the Phoenix metropolitan area's resale single family home market in 1985. Sales activity was comparable to that in 1984, and price gains continued to be modest. Further, the characteristics of homes sold during 1985, including size and amenities, greatly resembled those of dwellings sold during 1984. Certain features correlated with home price, even after adjusting the price for home size.

HOUSING CHARACTERISTICS

The median size of resale single family homes sold in both 1984 and 1985 was approximately 1,440 square feet. Nearly one-half of these residences had fewer than three bedrooms.

Adjusted for size, the 1985 median price per square foot of these smaller homes was roughly equivalent to that of much larger homes (those with four bedrooms and approximately 2,400 square feet) at about $55, 8 percent higher than the overall median. In between, average-size, three-bedroom homes typically were purchased for roughly $50 per square foot. Beyond 2,500 square feet, the median price per square foot grew with the size of the residence.

Homes with two or more full bathrooms, nearly 20 percent of sales in 1985, had a higher price per square foot (around $56) than homes with fewer bathrooms. The most common arrangement, in nearly two-thirds of the homes, was one full bathroom and one partial bathroom.

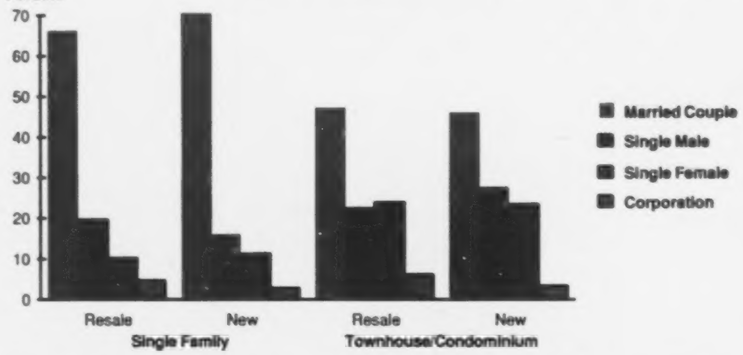
The age of a dwelling also correlates with its value. Of homes sold during 1985, the median price per square foot was approximately $48 for those built prior to the mid-1970s. A steady increase in the price per square foot was measured for homes less than 10 years old, reaching more than $60 for those constructed in 1984.

Little long-term trend is apparent in the size of homes built in the Phoenix area during the last 25 years. During periods such as the mid-1960s or late 1970s, larger homes (approximately 1,600 square feet) were constructed, while the median size of residences built since 1981 (approximately 1,460 square feet) is comparable to the size of homes constructed throughout most of the 1960s and 1970s.

The presence of features such as a garage, swimming pool or refrigerated air conditioning also relate to the value of a home. At $54, the square-foot price of residences with a garage (44 percent of sales in 1985) exceeded that of homes with a carport ($49) and that of homes with neither a carport nor a garage ($42). The latter accounted for just 9 percent of 1985 sales.

Homes with refrigerated air conditioning represented 80 percent of the resale single family homes sold during 1985, up slightly from the prior year; sales of homes without refrigeration declined. The median price of homes without refrigeration was only $45 per square foot.

FIGURE I
HOMEBUYER BREAKDOWN
Metropolitan Phoenix, 1985



Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

While the price per square foot of homes with a swimming pool was 7 percent higher than the overall median, dwellings with a covered patio or porch did not sell for more than the median. Approximately two-thirds of the homes sold had this feature.

HOMEBUYER CHARACTERISTICS

The profile of homebuyers, including the type and price range of homes they purchased, was similar in 1985 to 1984. Sales of dwellings to non-corporate buyers rose slightly. However, the number of homes of all types purchased by corporations dropped sharply during 1985, accelerating the trend toward a reduced corporate share of the housing market. This decline likely is due to growing recognition that housing is not an investment as it was during the 1970s.

Married couples purchased approximately two-thirds of the single family homes but less than one-half of the townhouses and condominiums that were sold during 1985 (see Figure I). While married couples bought more expensive single family homes than did single people, little difference existed in the prices of townhouses and condominiums they purchased.

— **Tom R. Rex**
Research Manager

Number of Arizona Businesses Jumps 28 Percent in '84

Arizona's business sector comprised 72,748 firms in 1984, according to data recently released by the U.S. Bureau of the Census. Governmental entities and self-employed individuals were not included in the count. Sixty-one percent of these establishments (44,397) were located in the Phoenix metropolitan area.

The number of establishments in Arizona rose sharply - 28 percent - from the number during the 1982 recession. The greatest increase occurred in the construction industry, with the number of firms rising 40 percent from the depressed 1982 level. The mining industry, dominated by the problems of the copper sector, experienced the smallest gain.

EMPLOYMENT

Total employment in Arizona, up 14 percent between March 1982 and March 1984, did not rise as much as the number of companies, indicating that many of the new businesses were quite small. With a 53 percent gain in employment, construction was the only industry in which the average number of employees per organization rose between 1982 and 1984.

Although the number of employees per mining firm dropped 36 percent, largely due to a 33 percent decline in the total number of mining workers, the average of 63.9 employees per mining concern still exceeded that of any other industry. The number of employees per enterprise was also larger than the all-industry average of 13 in the manufacturing and the transportation, communications and public utilities industries.

— **Tom R. Rex**
Research Manager

Purchasing Activity Intensifies in March

All indicators of Arizona economic activity were positive in March, for the second consecutive month. Purchasing managers again reported good increases in new orders received, production, employment, and purchase commitments (see Table 1). Inventory restocking occurred for the second month in a row, and vendor lead times lengthened further, as the rate of economic growth accelerated.

The first quarter ended on an upbeat note. The growth rate continued to intensify at a measured pace. As falling energy prices work through the system, and interest rates and the value of the dollar soften, the stage is set for even stronger growth over the balance of 1986.

PRICES

Prices paid for major purchased items rose again in March and at a slightly greater rate than in February. The March increase rate still was much lower than that recorded during the same month of 1983 and 1984, but it was somewhat higher than that for the last half of 1985. Although the increase rate continued to be low, relative to earlier years of this expansion, inflation still is present in industrial prices. However, the full impact of falling energy costs has not yet worked its way through the system. It seems likely that the Arizona economy will enjoy a year of very moderate price increases, which should help to ensure continued economic growth.

DELIVERY TIME

Delivery time on shipments from vendors continued to stretch, at a greater rate than in February. The increase rate in each of the past three months was greater than in all but one month of 1985, showing that the economy now is operating at a faster pace.

INVENTORIES

Inventory levels of purchased materials rose at the same rate in March as in February. A modest rate of restocking now is underway, necessitated by the increases in new order receipts and production. If the rate of inventory rebuilding accelerates over the next few months, economic growth will be further stimulated.

NEW ORDERS

New orders received by Arizona firms continued to grow at a greater rate than in all but two months of 1985. New order bookings came in at a healthy pace each month of the first quarter, as the growth rate stepped up.

PRODUCTION

Production also advanced in March, following the new order jump, although the increase rate was a bit lower than in February. Production showed very good strength during the first quarter and likely will continue to escalate to meet the increased flow of incoming orders.

EMPLOYMENT

Employment rose again, at a rate consistent with that of both January and February. The increases in each of the first three months of 1986 all were greater than in any month of fourth quarter 1985. Further additions to payrolls can be anticipated over the balance of the year.

PURCHASES

Purchases of materials and services by Arizona firms went up in March at the highest rate in close to two years. The higher new order and production rates, plus inventory building, are prompting Arizona firms to increase their purchase commitments, causing even further stimulation of the economy.

— **Harold Fearon**

Dr. Fearon is chairman of the Department of Purchasing, Transportation, Operations in the ASU College of Business and is the National Association of Purchasing Management Professor.

TABLE 1
MARCH PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (March compared to February)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	25	64	11
Delivery time from vendors	25	67	8
Purchased materials inventory level	34	40	26
New orders received	41	42	17
Production	40	44	16
Employment	24	61	15
Purchases	49	33	18

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

Arizona Purchasing Survey

Now in its 24th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity - higher, unchanged, or lower - of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

Arizona Leading Index Reaches New High in February

The Arizona Index of Leading Economic Indicators rose moderately in February, following a small drop in January (see Figure I). February's 0.2 percent gain brought the index to a new high of 106.5 from a revised 106.3 in January.

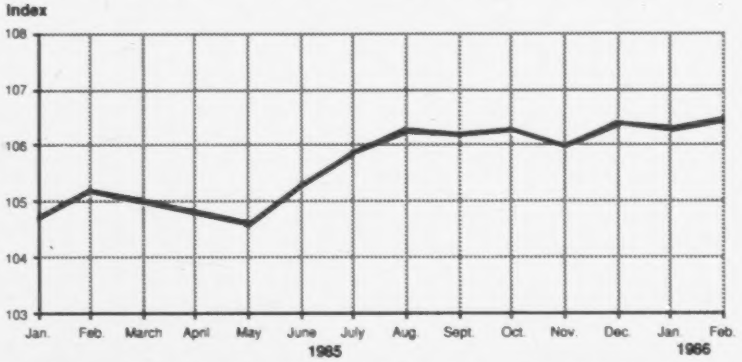
One-half of the index components climbed in February. The national money supply (M2) advanced strongly, following slight losses in three of four prior months. As the only component of the Arizona index to exhibit long-term growth, it is primarily responsible for the index attaining a new peak. No other component came close to matching its peak value.

The number of unemployment insurance claims fell in February (a positive indicator), offsetting a sharp rise in January (see Table 1). Despite monthly ups and downs, this indicator has been essentially unchanged since late 1983. The same is true of the average hours worked in the manufacturing industry, which barely changed in February, and of residential building permits, which were sharply down in February, negating a large gain in January. Changes in sensitive materials prices have been small and without consistent direction since mid-1984.

The five components derived from a monthly survey of Arizona purchasing managers were mixed in February, though the combined effect was positive. After generally declining between early 1984 and mid-1985, these indicators have rebounded in recent months, although the monthly changes have been erratic.

FIGURE I

ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

TABLE 1

NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution[+]			
	Nov.	*Dec.*	*Jan.*	*Feb.*
Delivery Time*	-.02	.09	-.08	.03
Inventory Levels*	.03	.00	-.05	.09
New Orders*	.10	.05	-.07	.06
Production*	.01	.14	-.06	-.03
Employment*	.08	-.01	-.04	-.03
Residential Building Permits	-.25	.10	.32[r]	-.29
Unemployment Insurance Claims	-.15	.00	-.23	.16
Average Workweek, Manufacturing	-.05	-.14	.18	-.02
Money Supply	-.05	.09	-.09	.32
Change in Sensitive Materials Prices	.01	.00	.01	-.02
OVERALL INDEX	-.28	.32	-.11[r]	.26

[r] Revised

[+] The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

*Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

OUTLOOK

Between February 1985 and February 1986, the Arizona index rose 1.2 percent, indicating that moderate economic growth will continue throughout 1986. The Arizona Gross State Product probably will expand between 6 and 7 percent, slightly more than its long-term average. The chance of a recession is less than 2 percent.

The national Index of Leading Economic Indicators rose strongly in February, following a sizable gain in December and a large upward revision in January to a no-change-from-December level. Far more economic improvement is indicated for the nation than for Arizona in 1986, but the national economy slumped more than the Arizona economy between mid-1984 and late 1985.

- Tom R. Rex
Research Manager

Desktop-to-Desktop Delay

Your late receipt of the May *Arizona Business* is due to our transition to an in-house desktop publishing system. Computerization of the typesetting and layout phases of production will save the Bureau considerable time and money on future issues, while production quality will remain high.

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date	
					Value	Percent Change from Year Ago
GROSS STATE PRODUCT						
(In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	3rd Qtr.	46.814	6.7	7.4	NA	NA
Arizona - 1982 Dollars	3rd Qtr.	43.478	5.8	5.3	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	1st Qtr.	191.6	0.0	2.0	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	Feb.	106.5	0.2	1.2	NA	NA
BUILDING PERMITS						
(Total Dollar Value in Thousands)						
Maricopa County	Jan.	330,546	31	-5	330,546	-5
Pima County	Jan.	51,377	68	-12	51,377	-12
Balance of State	Jan.	51,186	20	8	51,186	8
Arizona	Jan.	433,109	33	-5	433,109	-5
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	Jan.	3,444	22	-32	3,444	-32
Pima County	Jan.	582	22	-54	582	-54
Balance of State	Jan.	921	-12	-16	921	-16
Arizona	Jan.	4,947	14	-34	4,947	-34
HOME SALES						
Maricopa County - Number	Feb.	3,823	1	9	7,608	14
Maricopa County - Median Price	Feb.	75,000	2.7	6.1	74,000	3.3
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix - New Homes	4th Qtr.	80	-1.2	5.3	NA	NA
Metropolitan Phoenix - Resale Homes	4th Qtr.	93	3.3	13.4	NA	NA
MORTGAGE INTEREST RATES						
(Conventional, 30-year, Fixed-rate)						
Maricopa County	March	10.0	-4.8	*	NA	NA
POPULATION ESTIMATES						
(In Thousands)						
Maricopa County	4th Qtr.	1,856	1.1	4.9	NA	NA
Arizona	4th Qtr.	3,294	1.0	4.1	NA	NA
ELECTRICAL POWER SALES						
(In Millions of Kilowatt Hours)						
Arizona	Feb.	2,454.8	-8.7	-2.1	5,144.8	-2.2

NA = Not Applicable. * = Not Available.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

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Valley's Winter Residents Spend $381 Million

An estimated 190,000 winter residents were living in the Phoenix metropolitan area at the height of the "snowbird" season in February. During the entire 1985-86 winter season, the Valley's temporary residents injected approximately $381 million into local economies. These figures, representing the first-ever estimates of total Valley snowbird population and expenditures, are derived from a survey by the Department of Economics and the Center for Business Research in the ASU College of Business and a separate survey by Western Savings.

An accurate count of winter visitors had been elusive because no governmental agency, such as the U.S. Census Bureau, tracks seasonal migration. Another impediment is the fact that winter residents, who are mainly retired and semi-retired people, live in a variety of accommodations and stay for varying lengths of time, with divergent arrival and departure dates. Nonetheless, both public officials and local business managers maintain a strong interest in gathering information about the Valley's winter resident population. They are concerned with the migrants' seasonal impact on business, highways, health care, and public and private facilities.

THE SURVEYS

Beginning in February 1984, researchers from the ASU Department of Economics and the Center for Business Research utilized limited resources to survey the winter residents of mobile home and travel trailer/recreational vehicle parks (the most popular type of accommodation among Valley snowbirds). The researchers did not attempt to enumerate all winter residents – only those who lived in parks in the

See "Snowbirds," page 2

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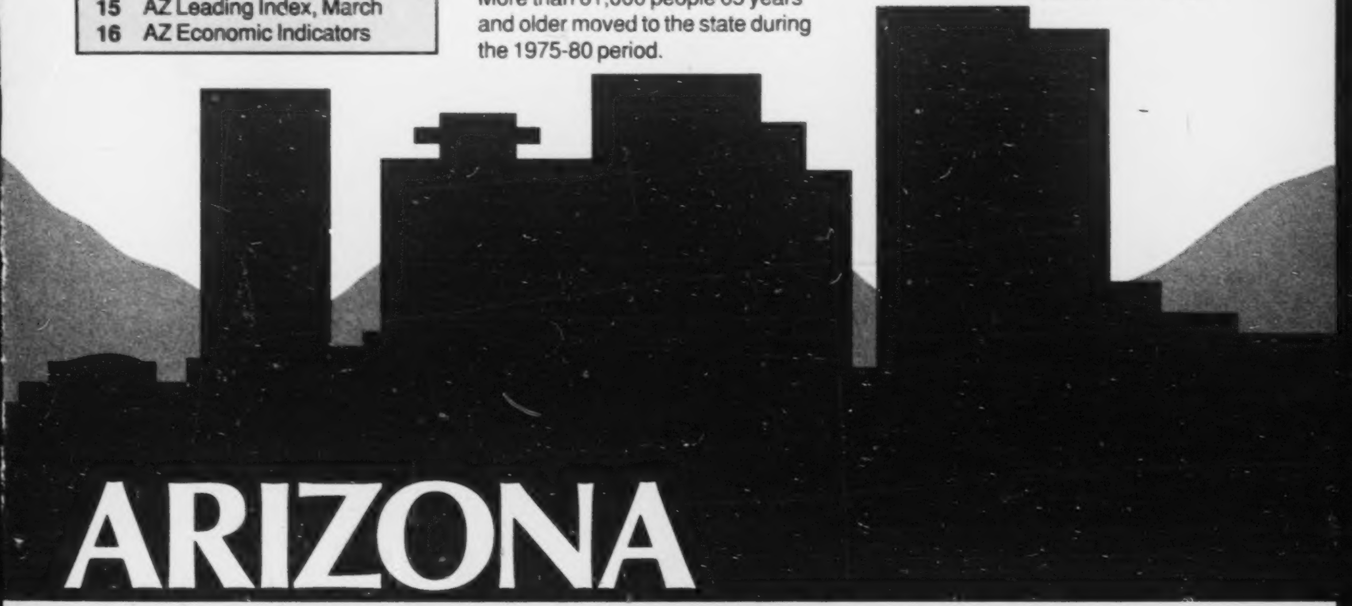
Retirement and Seasonal Migration

Arizona Approaches No. 2 as Destination

Arizona has experienced more growth in retirement migration than any other state in the nation, with the number of in-migrants tripling between 1960 and 1980. If this current trend continues, Arizona may overtake California as the second-ranked destination state, behind Florida, in the 1990 Census figures. More than 61,000 people 65 years and older moved to the state during the 1975-80 period.

Arizona's experience typifies the geographical redistribution of the U.S. retirement-age population - a major social phenomenon of the post-World-War-II era. The number of elderly migrants has increased dramatically, from 225,000 during 1935-40 to more than 1.6 million during 1975-80.

See "Migration," page 4



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"Snowbirds," from page 1

Mesa/Apache Junction area, where the Valley's largest concentration of snowbirds resides. In 1985, the survey area was expanded to include all of the East Valley. With increased funding, the 1986 census encompassed the entire Phoenix metropolitan area.

Winter residents staying in motels, hotels, apartments, houses or condominiums, with friends/relatives, or camping on public lands were not contacted. Thus, the estimates produced by these censuses should be interpreted as a measure of a major segment of all winter residents, rather than as a count of the entire snowbird population.

In recognition of the growing economic importance of the Valley's winter residents, Western Savings completed a different type of snowbird survey in February as part of their *Forecast Eighty-Six* project. Their objective was to compile information on demographics, attitudes, and activities. Personal interviews conducted throughout the Phoenix area provided new information on the entire snowbird population, regardless of their type of accommodation. When these data were combined with the results of ASU's census of mobile home and travel trailer/RV parks, estimates could be made for the first time of the total winter resident population and the impact of their spending on the Valley's economy.

METHODOLOGY OF THE SURVEYS

1984 Survey

For the 1984 census, ASU researchers compiled a list of 236 mobile home and travel trailer/RV parks from a variety of sources, including park directories, Mountain West Research's annual *Phoenix Metropolitan Housing Study*, and city and county planning departments. During the first and second weeks of February 1984, the owners or managers of the parks on the list were surveyed by telephone to ascertain the number of spaces, occupancy levels, proportion of seasonal residents, and other characteristics of their parks. For non-responding parks, counts of the number of spaces were compiled from published sources, the Mountain West list, or site visits. Information from the responding parks was employed to estimate occupancy rates and the proportion of winter residents for the non-respondents.

1985 Survey

The second annual snowbird census was conducted during the first and second weeks of February 1985, using procedures similar to those of the 1984 census. The survey area was expanded to the entire East Valley, including parks in Chandler, Gilbert, Scottsdale, Tempe, and the non-incorporated areas of eastern Maricopa County.

1986 Survey

The 1986 census encompassed the entire Phoenix metropolitan area. Parks to be contacted in the city of Phoenix and the West Valley were identified from the *Phoenix Metropolitan Housing Study* list compiled by Mountain West Research, from various directories, and from canvassing the areas by car. Researchers also updated the park list for the East Valley from the same sources. The total number of parks was 719 – 299 parks in the East Valley, 284 parks in Phoenix, and 136 parks in the West Valley (Avondale, Buckeye, Glendale, Goodyear, Morristown, Peoria, Sun City, Surprise, Tolleson, Tonopah, and Youngtown). Expansion of the census area led to a procedural change in that the ASU Survey Research Center conducted the telephone survey. As a result, the survey was conducted during the last week of February and first week of March.

Forecast Eighty-Six

As part of its *Forecast Eighty-Six* project, Western Savings conducted personal interviews with 550 winter residents Valleywide during February. Researchers collected information on their type of lodging, contacting 171 people within their home park and interviewing a random sample of 379 people at the Phoenix Zoo and various other locations.[1]

SURVEY RESULTS

1984 Survey

An estimated 27,500 seasonal households or, assuming an average of two people per household, 55,000 winter residents were living in mobile home and travel trailer/RV parks in the Mesa/Apache Junction area during the 1984 survey period.[2]

TABLE 1
WINTER RESIDENTS IN MOBILE HOME AND TRAVEL TRAILER/RV PARKS
1986 Census, By Geographical Area

	East Valley	*City of Phoenix*	*West Valley*	*Total*
Number of Mobile Home Spaces	32,129	17,212	11,334	60,675
Occupancy Rate (percent)	92.7	92.0	84.9	91.0
Number of Travel Trailer and RV Spaces	32,374	2,521	3,912	38,807
Occupancy Rate (percent)	76.4	91.3	57.2	75.5
Number of Occupied Spaces	54,564	18,137	11,861	84,562
Percentage of Spaces Occupied by Winter Residents	56.1	18.9	26.6	44.0
Number of Winter Resident Households	30,610	3,428	3,155	37,193

Source: Census conducted by the authors and the ASU Survey Research Center, February/March 1986.

1985 Survey

The second annual census yielded an estimate of almost 34,000 winter resident households in the East Valley during the survey period. Again assuming an average household size of two people, approximately 68,000 winter residents lived there.[3] With the addition of new territory to the survey area in 1985, the figures cannot be directly compared to those from the 1984 census. However, more detailed analysis of the 1985 results revealed that substantial growth had occurred, with the expansion evidenced by growth in the number of spaces available in the travel trailer/RV parks. Given the large increases, many of the newly opened parks experienced low occupancy rates during the 1984-85 season. On balance, however, the number of winter residents staying in the East Valley probably increased 6 percent between February 1984 and February 1985.

TABLE 2
NUMBER OF PARK SPACES AND WINTER RESIDENT HOUSEHOLDS IN THE EAST VALLEY

	1985	*1986*	*Percent Change*
Number of Mobile Home Spaces	30,448	32,129	+5.5
Number of Travel Trailer/RV Spaces	29,629	32,374	+9.3
Number of Occupied Spaces	50,361	54,564	+8.3*
Number of Winter Resident Households	33,951	30,610	-9.8*

*Comparison biased by three-week difference in timing of the survey.

Source: Censuses conducted by the authors and the ASU Survey Research Center.

TABLE 3
WINTER RESIDENT HOUSEHOLDS:
NUMBER AND PERCENTAGE OF EACH TYPE
Metropolitan Phoenix, February/March 1986

	Number	*Percent*
Mobile Home/Travel Trailer/RV Park	44,800	47%
Apartment	21,923	23
Single Family Home/Condominium	14,298	15
Hotel/Motel	7,626	8
Friend/Relative	6,672	7
TOTAL	95,319	100%

Sources: Forecast Eighty-Six, "Snowbird Survey," by Western Savings and Datapol, February 1986; and calculations by the authors.

1986 Survey

The 719 parks in the Phoenix metropolitan area at the time of the 1986 census encompassed 60,700 mobile home spaces and 38,800 travel trailer/RV spaces – a total of nearly 100,000 spaces. The proportion of occupied spaces was considerably higher in mobile home parks (91 percent) than in travel trailer/RV parks (76 percent). Based on census responses, an estimated 44 percent of the occupied spaces Valleywide were home to seasonal residents. With more than 84,000 occupied spaces, this proportion implies more than 37,000 winter resident households in Valley mobile home, travel trailer, and RV parks.

Table 1 summarizes the results of the 1986 census. The data presented by geographical area clearly show that the Valley's winter resident population is heavily concentrated in the East Valley. Not only are 83 percent of travel trailer/RV spaces and 65 percent of all mobile home and travel trailer/RV spaces located there, but the proportion of spaces occupied by winter residents is much higher for East Valley parks – 56 percent relative to 19 percent for Phoenix and 27 percent for the West Valley. Consequently, 82 percent of winter resident households staying in Valley parks were in the East Valley.

Table 2 presents comparisons between the 1985 and 1986 censuses for the East Valley. The number of mobile home spaces, for example, rose moderately (5.5 percent), while a more sizable increase occurred in the number of travel trailer/RV spaces (9.3 percent). Any change in the number of occupied spaces and in the number of winter resident households is difficult to validate due to survey bias that results from the three-week difference in timing of the 1985 and 1986 surveys. However, adjustments for this timing difference have been calculated and are discussed in the next section. The adjusted figures indicate that roughly 5 percent more winter residents probably were living in East Valley mobile home, travel trailer and RV spaces in 1986 than in 1985.

In addition to the data compiled in previous years, the 1986 census also collected information on a variety of park characteristics. These data indicate that monthly rental of spaces to winter residents is the most prevalent rental/lease arrangement (68 percent), while seasonal residents who purchase their own space represent a very small segment of the market (5 percent). The survey findings also show that the majority of parks provide a wide variety of amenities. Most spaces have individual hookups for electricity and phone service. More than 50 percent of the parks feature recreational facilities such as swimming pools, dance areas, ping pong or pool tables, shuffleboard, and arts and crafts rooms. Another one-third of the parks also have special security arrangements.

Forecast Eighty-Six

Data relating to the snowbirds' month of departure indicate that the majority return home during March or April, but 14 percent depart during February. Since part of ASU's 1986 census also was conducted during March, it is possible to use the Western Savings data to adjust the census figures and estimate the peak population of winter residents in Valley parks. After accounting for the proportion departing during February and part of March, an estimated 44,800 seasonal households or, assuming an average of two people per household, almost 90,000 winter residents were staying in mobile home and travel trailer/RV parks during the peak of the 1985-86 winter season.

Based on the living arrangements of the survey's randomly sampled component, the 44,800 seasonal household figure can be used to derive estimates of the total number of winter resident households as well as breakdowns by stated type of lodging. If 47 percent of winter resident households stay in the parks, as *Forecast Eighty-Six* data suggest, then more than 95,000 such households – some 190,000 snowbirds – lived in the Phoenix area during February/March 1986 (see Table 3).

ECONOMIC CONTRIBUTION

An important issue surrounding the Valley's winter residents is the amount of money they inject into local economies. In the past, estimates for winter residents of East Valley parks assumed average monthly expenditures of $1,000 per household and an average length of stay of four months. *Forecast Eighty-Six* findings reveal that the $1,000 figure is conservative. Nearly 47 percent of the respondents indicated average monthly expenditures greater than $1,000, with 12 percent indicating expenditures greater than $2,000. Length of stay varied Valleywide, with an average of approximately three months in the West Valley and the City of Phoenix and approximately four to five months in the East Valley.

Using the 44,800-household estimate of park residents and assuming an average length of stay of four months, with average monthly household expenditures of $1,000, these snowbirds injected approximately $179,000,000 into local economies. As for the Valley's entire winter resident population, the same assumptions and the 190,000 population estimate from Table 3 lead to a total expenditure estimate of approximately $381,000,000.

SUMMARY AND OUTLOOK

Estimates of the number of winter residents staying in the Phoenix metropolitan area demonstrate the importance to the local economy of the annual influx of snowbirds – an addition of 190,000 people for one or more months to the Valley's population and an injection of close to $400 million to the local economy. This seasonal increase in the area's population, plus the greater volume of winter tourism, explain why many of the Valley's streets, hospitals, golf courses, restaurants, and other public and private facilities become crowded.

The number of U.S. residents 55 and older is projected to increase 12 percent between 1980 and 1990 and another 11 percent by the year 2000. This growth in the nation's retired and semi-retired population is expected to spawn further growth in the number of people who migrate each winter to the Phoenix metropolitan area.

– **Jacqueline Fifield**
Research Analyst
– **Stephen K. Happel**
– **Timothy D. Hogan**

Drs. Happel and Hogan are faculty members in the Department of Economics of the ASU College of Business. Dr. Hogan is also Director of the State Data Center/ASU.

The authors gratefully acknowledge: the funding support for this research, provided by the College of Business Dean's Council of 100, the Arizona Department of Commerce, the Arizona Department of Economic Security, Arizona Public Service Company, Mountain Bell, Salt River Project, and Western Savings; the data provided by Western Savings and Datapol from the Forecast Eighty-Six *study; the listings of mobile homes and travel trailer/RV parks in Maricopa County provided by Mountain West Research; the efforts of the Arizona State University Survey Research Center, which conducted the telephone survey; the cooperation of the park owners/managers who responded to the survey; and the research assistance of Elmer Pflanz and Con Wilson.*

A detailed analysis of the 1986 census results, in which all of the questions are broken down by subdistricts within the East Valley, the City of Phoenix, and the West Valley, is also available. Anyone interested in purchasing this report should contact Dr. Happel at 965-3531.

[1] The overall error rate, at the 95% confidence level, is 4.2% in either direction.

[2] Stephen K. Happel, Timothy D. Hogan, Deborah Sullivan, Heidi Rowe, and Laura Smith, "Mobile Home and Travel Trailer Parks in the East Valley: A Census," *Arizona Business* (Second Quarter 1984): 13-18.

[3] Jacqueline Fifield, Stephen K. Happel, Timothy D. Hogan, and Deborah Sullivan, "East Valley Winter Migration Up 6 Percent in 1985," *Arizona Business* (May 1985): 1-4.

"Migration," from page 1

SEASONAL MIGRATION

For reasons similar to those of the many elderly who move permanently to Sunbelt states, many retired and semiretired people also migrate to this warmer clime each winter on a short-term basis. Again, Arizona is a major destination. The magnitude and pattern of this seasonal migration are not as easy to ascertain as information about permanent migration, which is collected as part of the decennial censuses. Studies of seasonal migration to Arizona generally have relied on data collected for some other purpose. For example, a 1979 household survey provided data for an estimate of at least 73,000 seasonal residents in the Phoenix area during the winter of 1979-80 (see the first quarter 1983 *Arizona Business*).

In 1980, for the first time, the U.S. Census Bureau compiled information relating to seasonal migration. Nationally, the census identified more than one-half million people as non-permanent residents of the localities in which they were living on the census day. These data understate the volume of seasonal migration occurring each winter, since they reflect residence as of April 1 - well past the prime period of winter migration. Further, people staying with relatives, in trailer/RV parks, campgrounds, motels/hotels or other accommodations were not counted. On the other hand, these counts included not only seasonal residents but also people, such as construction or farm workers, who were temporarily residing away from their usual residence. However, because the data indicate a median age for non-permanent Arizona residents of "65-plus," it is reasonable to consider these Census counts as a measure of seasonal migration to the state.

The 1980 Census figures reveal that Arizona, with more than 39,000 non-permanent residents, ranked third behind Florida and California in terms of absolute numbers. When these counts are compared with the states' total resident populations, the greatest concentrations of seasonal residents were found in Florida, with 26 non-permanent residents per 1,000 permanent residents, and in Arizona, with a ratio of 14 per 1,000.

TABLE 1
RETIREMENT AND SEASONAL MIGRATION TO ARIZONA
By State of Origin (Selected States), 1980

	Number of Migrants Aged 65 or Older	*Non-permanent Residents*	*Retirement Migration Rate*[1]	*Seasonal Migration Rate*[1]
Alaska	122	156	10.6	14.3
California	10,835	1,697	4.5	0.9
Colorado	2,085	1,803	8.4	7.9
Connecticut	640	187	1.8	0.6
Florida	1,541	201	0.9	0.1
Idaho	456	801	4.9	9.2
Illinois	7,664	2,515	6.1	2.2
Indiana	1,534	900	2.6	1.6
Iowa	1,766	2,336	4.6	6.5
Kansas	829	687	2.7	2.4
Maryland	437	82	1.1	0.2
Massachusetts	789	197	1.1	0.3
Michigan	4,007	3,550	4.4	4.2
Minnesota	2,304	4,188	4.8	9.3
Missouri	1,540	702	2.4	1.2
Montana	680	948	8.0	12.2
Nebraska	616	816	3.0	4.3
Nevada	476	201	7.2	3.3
New Jersey	1,234	277	1.4	0.4
New Mexico	945	277	8.1	2.3
New York	3,952	1,356	1.8	0.7
North Dakota	514	1,460	6.4	19.4
Ohio	3,428	1,333	2.9	1.2
Oklahoma	511	175	1.4	0.5
Oregon	1,407	1,196	4.6	4.4
Pennsylvania	1,763	758	1.2	0.5
South Dakota	448	934	4.9	11.1
Texas	1,318	414	1.0	0.3
Utah	564	439	5.2	4.2
Washington	1,893	2,017	4.4	5.2
Wisconsin	2,363	5,811	4.2	3.4
Wyoming	163	62	4.4	19.6
U.S. Total	61,376	39,170[2]	2.4	1.5

[1] Migrants per 1,000 people 65 years or older.
[2] Includes migrants from abroad and those for whom the residence was not reported.

Sources: U.S. Bureau of the Census, *Census of Population, 1980: County to County Migration Flows* (machine-readable data file), 1984; and "Nonpermanent Residents by States and Selected Counties and Incorporated Places: 1980," *Census of Population, 1980*, Supplementary Report PC80-51-6, April 1982.

GEOGRAPHICAL MIGRATION PATTERNS

In terms of absolute numbers during the 1975-80 period, the greatest number of elderly moved to Arizona from California. Other major sending states included Illinois, Michigan and Ohio in the Midwest and New York in the East. Migration data often are converted to migration rates to adjust for differences in population size of the areas under study. Retirement migration rates for each sending state have been calculated by computing the ratio of the absolute number of elderly in-migrants in 1980 per 1,000 residents 65 years and older. After adjusting for differences in the sizes of elderly populations, a substantially different geographic pattern emerges for retirement migration to Arizona: While the Midwest is still a major source of elderly in-migrants, the incidence of retirement migration from states in the Northwest and northern Mountain regions is shown to be much higher than from the states that sent greater absolute numbers of in-migrants to Arizona. Aside from Alaska, with the highest rate of 10.6 elderly migrants to Arizona per 1,000 people 65 years and older, adjacent Mountain states, such as Colorado, New Mexico, and Nevada, have the highest retirement migration rates (see Table 1).

Interpreting the Census Bureau's counts of non-permanent residents as seasonal migration figures, the largest migration flows to Arizona each winter come from the northern tier of states in the West and Midwest regions of the country. Seasonal migration rates (the ratio of non-permanent residents from each state per 1,000 residents 65 years and older in 1980) show that the incidence of seasonal migration to Arizona from Alaska and several smaller Mountain and Midwestern states, such as Idaho, Montana, North and South Dakota, and Wyoming, is much higher than that of larger states that send greater absolute numbers of winter migrants.

While both the retirement and seasonal migration figures portray a generally similar geographic pattern, a close look reveals systematic differences. For many of the northern states, the annual seasonal migration flows are larger than the volume of retirement migration to Arizona. For some Western states, on the other hand, there has been substantial retirement migration to Arizona but less seasonal migration. Similarly, while many Eastern states are the source of little seasonal migration to Arizona, retirement migration rates show a much higher incidence of elderly migration from those states to Arizona. Compare the two rates for Maryland (1.1 permanent retirement migrants versus 0.2 seasonal migrants per 1,000 elderly residents) or Massachusetts (1.1 versus 0.3), for example. Seasonal migrants from the East overwhelmingly choose to winter in Florida (the seasonal migration rate to Florida from Maryland is 9.0 and from Massachusetts is 13.1 migrants per 1,000 elderly residents), but residents of Eastern states seriously consider the more distant Arizona when contemplating a permanent retirement move.

– Timothy D. Hogan

Dr. Hogan is Professor of Economics and Director of the State Data Center/ASU.

GSP Growth Slows to 6.8 Percent Rate in 1985

The Arizona Gross State Product (GSP) grew at an inflation-adjusted 6.8 percent rate during 1985. Far short of the record 11.5 percent gain of 1984, the 1985 pace still surpassed the long-term annual average rate of 5.7 percent. The adjusted GSP, which excludes the volatile mining and agricultural industries, grew 7.9 percent during 1985.

REVISIONS TO GSP

These figures reflect several revisions just incorporated into the GSP in order to keep it comparable to the Gross National Product (GNP):

- The GNP and related national product accounts were enhanced and recalculated at the end of 1985 by the U.S. Department of Commerce. As a result, the value of both the GNP and GSP, in current (non-inflation-adjusted) dollars, was raised.
- The calculation of certain deflators – particularly those related to industries with improved technology – was updated, contributing to different real (inflation-adjusted) values for both the GNP and GSP.
- 1982 became the base period for inflation adjustment.
- Separately from the above changes, personal income figures for the last four years were revised.

The net effect of these changes is illustrated in the real dollar percent changes shown in Table 1. While some of the revisions were substantial, they were not so great as to change the basic understanding of the Arizona economy.

In specific industries and/or time periods, however, the revisions were more significant and will be noted later in this article. Because of these revisions, a detailed review of GSP is offered, including historical perspectives and comparisons to the national economy.

GSP GROWTH SINCE 1983

Between the end of the last recession in late 1982 and the end of 1985, the Arizona economy expanded nearly 31 percent. Despite record annual average growth in 1984, the total expansion of this 13-quarter period fell short of that for the first 13 quarters of the expansions of both the early and late 1970s. This relative sluggishness was a result of the slowdown in economic growth that began in mid-1984 and extended through 1985.

Deceleration is most easily seen in the adjusted GSP percent changes presented in Table 2. (Exclusion of the mining and agricultural industries results in a smoother pattern of economic growth that more closely coincides with the economic cycle.) Despite this moderation, the Arizona economy continued to grow at, or more rapidly than, its long-term average until fourth quarter 1985.

The slowing of the Arizona economy corresponded to a deceleration in the national economy, except that the braking of the national economy was more severe. As a result, 1985 growth in the GSP outpaced the 2.2 percent gain in GNP by a 3-to-1 margin instead of the 2-to-1 ratio typical during economic expansions (see Table 3).

The construction industry and the finance, insurance and real estate sector led the 1985 GSP advance. Each recorded double-digit gains for the third consecutive year. The trade industry was the only other sector to expand more rapidly than the 6.8 percent overall rate.

Both the agriculture and mining GSPs declined in 1985, the former for the third consecutive year and the latter for the third time in the last four years. Further, quarterly changes in each industry exhibited wild swings during these years, resulting in the erratic pattern of total GSP growth presented in Table 2.

Other slow-growing industries during 1985 included manufacturing, which expanded a subpar 5 percent, and government, which has experienced slower growth than registered by the entire economy in all but one year since 1975.

CURRENT DOLLAR GSP

The non-inflation-adjusted Arizona GSP exceeded $47.4 billion by the end of 1985, representing 1.1 percent of GNP. The trade industry continued to be Arizona's largest sector, with its $8.3 billion GSP accounting for 17.5 percent of the total. At nearly $8 billion each, the services industry and the finance, insurance and real estate sector closely followed (see Figure I). In 1984, the manufacturing industry

TABLE 1
EFFECT OF REVISION TO
ARIZONA GROSS STATE PRODUCT
Annualized Percent Change in Real GSP

Annual	*Original**	*Revised*
1980	3.9%	3.1%
1981	8.0	5.5
1982	-2.7	-2.7
1983	7.7	7.2
1984	14.0	11.5
1985	NA	6.8
Quarterly		
First 1983	14.7	8.3
Second 1983	20.1	18.3
Third 1983	14.9	10.0
Fourth 1983	8.8	14.3
First 1984	21.8	13.7
Second 1984	5.6	5.3
Third 1984	16.1	10.2
Fourth 1984	1.8	5.0
First 1985	10.7	11.4
Second 1985	-1.2	2.5
Third 1985	6.1	6.9
Fourth 1985	NA	-0.2

NA: Not Available
*As of February 1986

Source: Center for Business Research, College of Business, Arizona State University; in cosponsorship with the ASU College of Business Dean's Council of 100.

had claimed the greatest share of GSP, but slow growth during 1985 caused it to tumble to fourth place. The sectoral shares of agriculture and mining, the two smallest industries, again shrunk in 1985.

Arizona's industrial structure closely corresponds to the national structure, except that the manufacturing industry's share remains smaller in Arizona, offset by a larger construction industry share (see Figure II). Except in paralleling changes in the national structure, Arizona's industrial structure has varied little since the 1960s. Thus, the state has a mature economy in which the similarities to the national economy outnumber the differences. Most of the disparities occur within the nine major industries; for example, copper represents most of Arizona's mining industry, while oil dominates the national mining scene.

The revision to current dollar GSP did not affect the industries equally. In particular, it diminished the share of the finance, insurance and real estate industry but increased the shares of the services and construction industries.

DEFLATORS

Current dollar GSP, like current dollar GNP, uses special sets of price deflators to calculate real dollar values. As seen in Figure III, the Arizona GSP deflator has measured less inflation in recent years than either the Metropolitan Phoenix Consumer Price Index or the GNP implicit price deflator. During the 1970s, however, the Arizona deflator and the GNP deflator averaged identical annual inflation rates of 7.4 pecent. Declining copper prices have contributed to Arizona's lower inflation rate in recent years.

Variation in inflation rates among the Arizona sectors may be substantial in any year. Likewise, the difference in the inflation rate of the same sector nationally and in Arizona may be large. Over a period of several years, however, such variations generally even out. For example, the annual average inflation rate between 1971 and 1985 was between 6 and 8 percent in six of the nine sectors; the overall average was 6.1 percent. Exceptions included inflation in mining, in which a paltry 1 percent gain reflected falling copper prices; agriculture; and finance, insurance and real estate. The latter two industries averaged just less than 5 percent inflation.

INFLATION-ADJUSTED GSP

Real-dollar GSP is used to measure growth rates and trace economic cycles. The revision caused

TABLE 2
ECONOMIC GROWTH

	Arizona Gross State Product[r]				Gross National Product
Quarter	*Billions of Current Dollars, Annualized*	*Billions of 1982 Dollars, Annualized*	*Annualized Percent Change (1982 Dollars)*	*Annualized Percent Change (Adjusted GSP)**	*Annualized Percent Change (1982 Dollars)*
First 1983	$35.197	$34.384	8.3%	8.9%	4.0%
Second 1983	36.937	35.955	18.3	21.8	8.9
Third 1983	38.001	36.858	10.0	12.3	5.5
Fourth 1983	39.460	38.173	14.3	10.6	6.7
First 1984	41.421	39.485	13.7	11.4	11.4
Second 1984	42.207	40.005	5.3	11.8	5.1
Third 1984	43.295	41.025	10.2	9.1	2.1
Fourth 1984	43.958	41.541	5.0	6.7	0.6
First 1985	45.665	42.722	11.4	9.6	3.7
Second 1985	46.194	42.987	2.5	5.3	1.1
Third 1985	47.126	43.725	6.9	8.0	3.0
Fourth 1985	47.443	43.707	-0.2	2.4	0.7

*The adjusted GSP is the annualized GSP in billions of 1982 dollars, minus the contributions of the agriculture and mining industries.

[r] Revised

TABLE 3
ANNUAL ECONOMIC GROWTH

	Arizona Gross State Product[r]				Gross National Product
Year	*Billions of Current Dollars*	*Billions of 1982 Dollars*	*Percent Change (1982 Dollars)*	*Percent Change (Adjusted GSP)**	*Percent Change (1982 Dollars)*
1980	29.803	33.041	3.1%	2.1%	-0.2%
1981	33.585	34.857	5.5	2.4	1.9
1982	33.698	33.915	-2.7	-0.6	-2.5
1983	37.399	36.343	7.2	9.1	3.5
1984	42.720	40.514	11.5	11.9	6.5
1985	46.607	43.285	6.8	7.9	2.2

*The adjusted GSP is the GSP in billions of 1982 dollars, minus the contributions of the agriculture and mining industries.

[r] Revised

Source (Tables 2 and 3): Center for Business Research, College of Business, Arizona State University; in cosponsorship with the ASU College of Business Dean's Council of 100.

moderately large changes in the measurement of real growth in certain years - particularly in 1981 and 1984, when upward revisions to the inflation rate lowered real growth. The 11.5 percent gain in 1984 remained the record, however, edging out the 11.2 percent advance of 1978.

The revision had the overall effect of slightly lowering the long-term average annual growth rate of the Arizona economy to 5.7 percent. This average pertains both to the entire 1961-85 period for which GSP data are available and to the more recent 1970-85 period. During the 1980s, however, the average rate of growth has been only 4.8 percent, despite the 1984 record gain. The two recessions between 1980 and 1982 lowered this average.

GSP by Sector

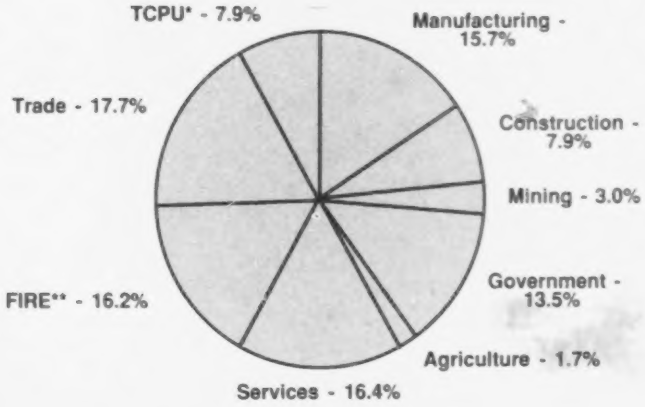
The annual average growth rate has varied widely by industry (see Figure IV). The finance, insurance and real estate sector's pace has clearly exceeded that of the other industries; growth of government and agriculture has lagged.

Inclusion of data for the 1960s in the long-term average, however, changes the rankings. Manufacturing nearly matched the 7.0 percent gain of the finance, insurance and real estate sector, while mining's growth of less than 4 percent was nearly as slow as that of agriculture and government.

The GSP of all Arizona industries has grown more rapidly than the gross product of their national counterparts. The annual average rate between 1970 and 1984 (national data by industry for 1985 are not yet available) was roughly twice as fast in Arizona than nationally in most industries. The smallest differential occurred in the trade and services industries, while the greatest divergence occurred in the mining and construction sectors. The real GNP of the latter industries declined between 1970 and 1984.

On a real-dollar basis, the revision to the Arizona data reduced the growth rate of the manufacturing; finance, insurance and real estate; and transportation, communications and public utilities industries. Annual average growth in the construction industry was revised up by a modest amount.

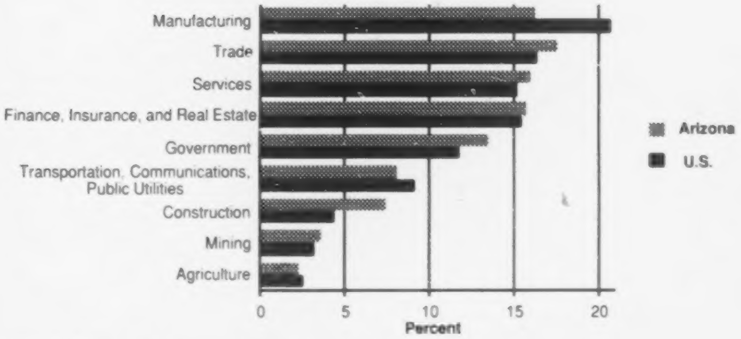
FIGURE I
ARIZONA GROSS STATE PRODUCT
1985 Sectoral Shares, in Current Dollars



*TCPU = Transportation, Communications, and Public Utilities
**FIRE = Finance, Insurance, and Real Estate

Source: Center for Business Research, College of Business, Arizona State University.

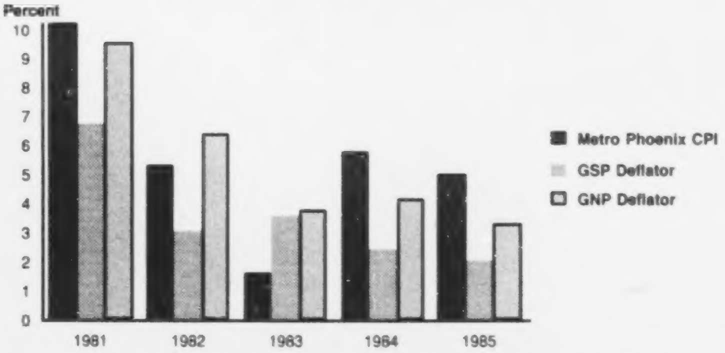
FIGURE II
ARIZONA GSP AND U.S. GNP
1984 Sectoral Shares, in Current Dollars*



*1985 GNP data by industry are not yet available

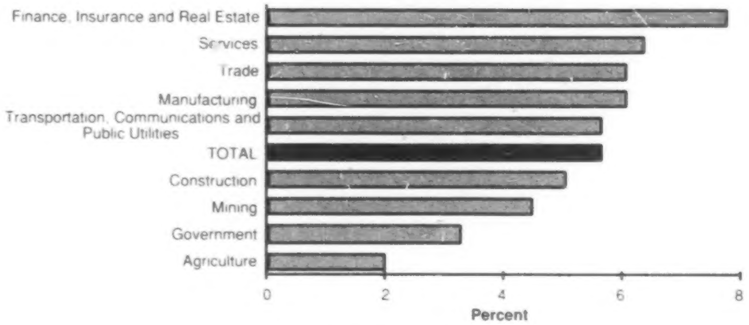
Source: Center for Business Research, College of Business, Arizona State University and U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE III
COMPARISON OF INFLATION MEASURES



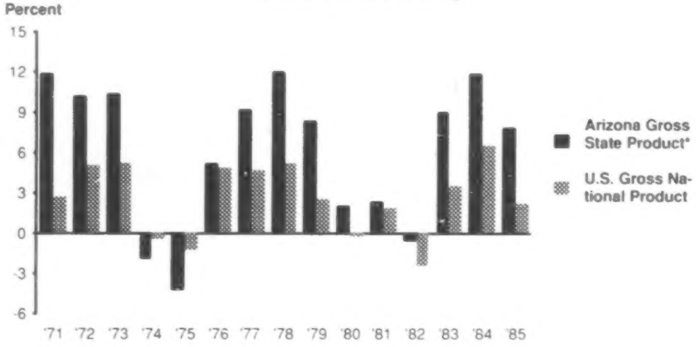
Source: Center for Business Research, College of Business, Arizona State University and U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE IV
ANNUAL AVERAGE GSP GROWTH
By Sector, 1970-85



Source: Center for Business Research, College of Business, Arizona State University.

FIGURE V
ARIZONA GSP* AND U.S. GNP
Annual Percent Change



*Adjusted for Mining and Agriculture

Source: Center for Business Research, College of Business, Arizona State University.

Economic Cycles

In each of the four expansionary periods since 1970 (including the current cycle), Arizona GSP grew at least twice as rapidly as GNP. Except for the brief 1980-81 recovery, the same relationship is true of adjusted GSP.

The Arizona economy exhibited more volatility, however, because the downturn in GSP during each of the three recessions exceeded the decline in GNP. After adjusting the GSP, however, only the severe 1974-75 recession remained more serious in Arizona than nationally (see Figure V). The GSP data clearly indicate that the Arizona economy does suffer through recessions, which may be more severe than the national downturns.

Total growth of the Arizona economy during the current cycle (through the end of 1985) has reached nearly 31 percent, less than gains during the expansions of the early and late 1970s - 34 percent and 45 percent, respectively. Thus, despite the length of the current expansion, further growth can be expected.

The Arizona economy has outperformed the national economy by a greater margin during the 1980s than during the 1970s. In the current expansion, GSP has grown 2.2 times as fast as GNP; adjusted GSP growth has been 2.6 times as rapid - a greater ratio than in the prior three expansions.

The duration of each economic cycle in Arizona has been nearly equivalent to the length nationally, with peaks and troughs generally occurring no more than one or two months apart. The GSP data provide no evidence that Arizona experiences shorter, milder recessions. Rather, the Arizona growth rate rapidly decelerates from a pace at least twice that of the nation to a decline nearly equal in magnitude to that of the national economy. The offsetting recovery is also much sharper in Arizona.

EMPLOYMENT AND PRODUCTIVITY

Rates of change in employment usually relate to rates of change in gross product. In Arizona, employment growth during 1984 was strong (9.6 percent), but less than in three years during the 1970s; 1984 GSP growth set a record. Thus, the output per employee rose 2.1 percent during 1984; productivity in 1983 had improved nearly 3 percent.

Employment growth slowed during 1985 (to 8.2 percent) but not as much as the deceleration in GSP. Output per employee thus fell nearly 1 percent in 1985. This pattern of up-and-down productivity has persisted since 1970; real output per employee was nearly identical in 1970 to 1985. The fluctuations relate to the economic cycle - output per employee inevitably declines during recessions and rises early in a recovery. This pattern results from employment levels changing more slowly than economic conditions.

Output per employee did rise in some sectors between 1970 and 1985, most notably in mining, where it more than tripled. Gains also were recorded in the manufacturing industry and in the finance, insurance and real estate sector. In contrast, productivity declined substantially in the construction and services industries.

OUTLOOK

The annual average change in Arizona GSP during 1986 probably will be slightly less than the 6.8 percent rate measured during 1985. While the quarterly pace during 1986 almost certainly will return to the levels of late 1984 and early 1985 and perhaps accelerate further in late 1986, the subpar fourth quarter 1985 figure lowered the year-over-year change to just 5 percent at the beginning of 1986. In contrast, the year-over-year rate at the beginning of 1985 was 9 percent. Thus, more rapid quarterly growth during 1986 still could result in a lower annual average increase.

– Tom R. Rex
Research Manager

Council of 100 Expects Brighter Economy in '87

Economic growth in 1987 should surpass that of 1986, according to a survey of the College of Business Dean's Council of 100. Council members are CEOs and executives at the senior level, primarily from firms in the metropolitan Phoenix area. They are polled at the beginning of the year and at midyear by the Center for Business Research.

Council members were asked to compare expected real economic growth nationally in 1987 with 1986, growth in 1986 with 1985, and during the next six months with the previous six months (Table 1). Responses were weighted, then averaged, so that scores of 50 for any entry indicate no change is anticipated, scores of more than 50 reflect expectations for improvement, and scores of less than 50 indicate worsening business conditions are expected.

The executives are more optimistic about the year ahead (score of 63) than they were one year earlier when asked to look forward to 1986 (score of 47). They also feel very strongly that 1986 will be significantly better than 1985 (score of 80). Actual figures for real GNP show growth of 3.8 percent for the first quarter 1986 and 1.1 percent for the second quarter, compared to 2.7 percent for all of 1985. The group anticipates marked improvement during the second half of 1986 over the first half (score of 75).

TABLE 1
ASU COUNCIL OF 100
ECONOMIC OUTLOOK SCORES*

	Date of Survey		
Outlook Period	*(6/86)*	*(12/85)*	*(6/85)*
1987 compared to 1986	63	NA	NA
1986 compared to 1985	80	62	47
Next six months	75	63	53

*Council members had three reply options to each question: Higher, Same, or Lower. The score for each question was calculated by averaging the weighted replies. The weights: Higher - 100; Same - 50; Lower - 0. Scores may range from 0 to 100, with higher scores reflecting a greater degree of optimism. Scores near 50 indicate no change, scores above 50 indicate expected improvement, and scores below 50 indicate expected worsening of business conditions.

TABLE 2
ASU COUNCIL OF 100
PROJECTIONS FOR ECONOMIC VARIABLES

	Percent of Council Members Indicating Each Response					
	In Six Months			In Twelve Months		
Variable	*Higher*	*Same*	*Lower*	*Higher*	*Same*	*Lower*
Prime Rate	20%	48%	32%	54%	22%	24%
Unemployment	16	70	14	33	48	19
Inflation Rate	23	71	6	63	31	6
Dow Jones IA	52	19	29	37	15	48

TABLE 3
ASU COUNCIL OF 100
SENTIMENT ON ECONOMIC DEVELOPMENT ISSUES

Issue	Strongly Agree *1*	*2*	*3*	*4*	Strongly Disagree *5*
Arizona has a strong business image nationally	22%	46%	12%	20%	0%
The Arizona business climate – considering taxes, labor supply, costs, quality of life – is among the best in the country	37	49	12	2	0
In 10 years, Arizona will be a better place to live and work than it is now	16	24	36	16	8
Air pollution is not a threat to Arizona's future economic development	4	6	2	36	52
Traffic congestion is not a threat to Arizona's future economic development	2	4	4	22	68

Source (Tables 1, 2, and 3): Center for Business Research, College of Business, Arizona State University.

Survey respondents expect no sharp changes in key economic indicators. Four out of five predict a stable or lower prime rate during the next six months (Table 2). Within a year, however, more than one-half (54 percent) foresee a rise in the prime. Council members' forecast of six months ago was quite accurate, as 90 percent projected no significant increase in the prime between January and June 1986.

Seven out of ten executives also expect unemployment and inflation rates to remain stable for the remainder of 1986. Slightly more than one-half (52 percent) think the Dow Jones Industrial Average will continue to rise during the next six months, but 53 percent believe the market will be the same or lower 12 months from now.

The survey also revealed the sentiments of Council members regarding the Arizona business climate as well as their long-term outlook for economic development (Table 3). While 37 percent strongly agree that Arizona has one of the strongest business climates in the nation, respondents were less willing to offer high marks for the state's current business image. Only 22 percent strongly agree that Arizona has a strong business image nationally.

Responses were mixed on whether in 10 years Arizona will be a better place to live and work, with the largest proportion (36 percent) falling in the middle or "not sure" region. However, only 8 percent strongly disagree with this statement, while twice as many strongly agree.

In spite of recent progress in funding streets and freeways, only 2 percent of executives strongly agree that traffic congestion is not a threat to Arizona's economic growth, while 68 percent strongly disagree. Similarly, 4 percent strongly agree that air pollution is not a threat, while 52 percent strongly disagree.

– Lee R. McPheters

Dr. McPheters is Professor of Economics and Center Director.

U.S. Economic Cycles Moderate Since WWII

Cyclical upturns and downturns in U.S. economic activity, though ever-present and similar in duration, have moderated in intensity during the post-World-War-II period. The economy appears to be depression-resistant but not recession-proof. Each period of cyclical fluctuation has posed unique problems for market participants, although the cycles themselves, especially the current expansion, have exhibited generic characteristics.

Figure I examines the historical record for changes in real GNP from 1929 to the present. The points in the figure represent the percent changes in real GNP from one peak value to the next trough value or from one trough to the next peak. Positive percent changes denote periods of expansion, while those that are negative represent contractions. The numbers along the line segments show the duration, in months, of the upturn or downturn.

Similarity or dissimilarity in business cycles can be measured in two dimensions: magnitude and duration. For example, at 43 months, the current upturn closely resembles the two expansions of the 1970s. The upturns that began in November 1970 and March 1975 lasted 36 and 58 months, respectively. In addition, the levels of real GNP in the early and mid-1970s rose 14.5 and 22.4 percent, respectively, from trough lows. At 14.9 percent more than the lowpoint of November 1982, the current expansion should easily continue for another 12 months.

Figure I also vividly displays the major differences between wartime and peacetime expansions. Typically, the stimulus of tooling up for wartime production results in abnormally high economic growth that lasts until the end of hostilities. World War II, for example, ushered in a sustained recovery from the worldwide depression of the 1930s.

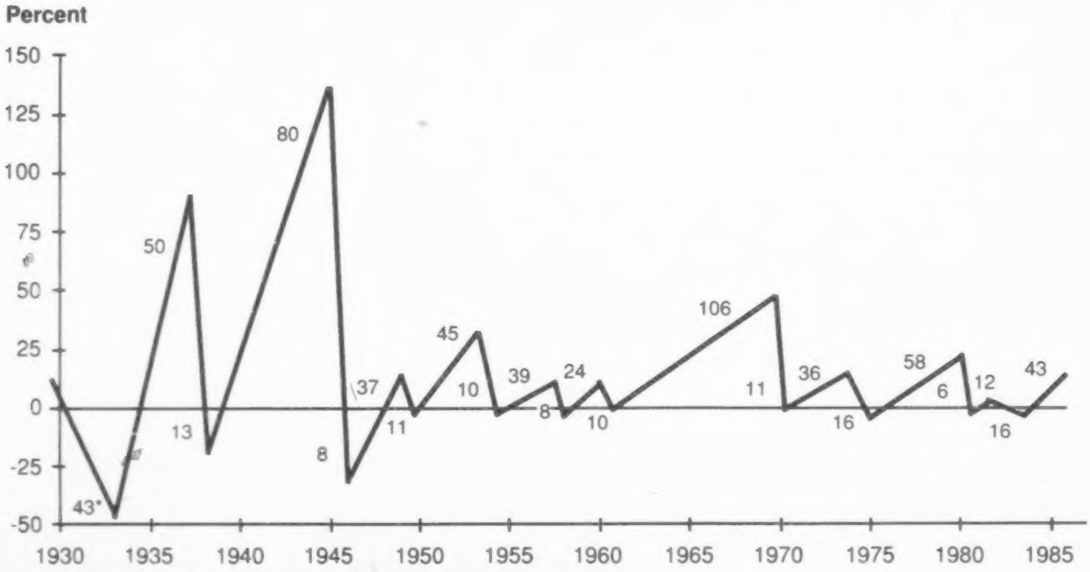
In terms of magnitude, the March 1933 to May 1937 expansion deviated from other peacetime growth periods. From trough to peak, real GNP almost doubled, rising 83 percent. In large part, this recovery resulted from "New Deal" legislation that stimulated the economy through government spending. However, real GNP failed to attain the level of eight years earlier, even after a strong, 50-month expansion.

On the downside of the cycle, the eight U.S. recessions from November 1948 to present have averaged 11 months in duration. The two recessions beginning November 1973 and July 1981, at 16 months each, were the longest of the post-Korean-War period. The recession beginning August 1957 was the shortest, lasting only eight months.

Though recessions since the Korean War have caused dislocations and hardships, they appear slight in magnitude compared to the severity of the Great Depression or the downturn just after World War II. During the 43 months of the Great Depression, the nation's real output of goods and services was almost halved, dropping 45 percent. This output, in turn, reflected an economy in which one in four workers was unemployed.

– **Jim Huyghebaert**
Senior Economist
Economic Outlook Center

FIGURE I
PERCENT CHANGE IN REAL GNP



* Numbers indicate the duration of the expansion or recession, in months.

Source: Economic Outlook Center, College of Business, Arizona State University.

Home Sales Remain Strong in First Quarter

Some 19 percent more homes were sold in the Phoenix metropolitan area during first quarter 1986 than during first quarter 1985 (see Table 1). While the 12,953 sales fell 16 percent short of the fourth quarter total, a decline of this magnitude typically occurs during the winter.

The most recent decline in mortgage interest rates, in late February and early March, had little effect on first quarter sales. At least several weeks elapse between a decline in rates and an increase in recordings of home sales because of the time required for a buyer to select a home and finalize the transaction. For a new home, months may pass while the home is under construction before the sale is recorded.

In comparison to sales in both the prior quarter and first quarter 1985, activity by type of home during first quarter 1986 was erratic. The sharp decline in new home sales and the large advance in resale townhouse and condominium sales probably do not represent enduring trends. These inconsistencies partially result from the relatively small volume of sales at the start of any year.

MEDIAN HOME PRICE AND APPRECIATION RATE

The median price of all homes sold in the Phoenix area during the first quarter, $75,000, was slightly less than the median of fourth quarter 1985. Such a price drop usually occurs during the winter. However, the increase in the median sales price of nearly 5 percent for the year ending first quarter 1986 exceeded the gain of approximately 3 percent that was experienced during much of 1985.

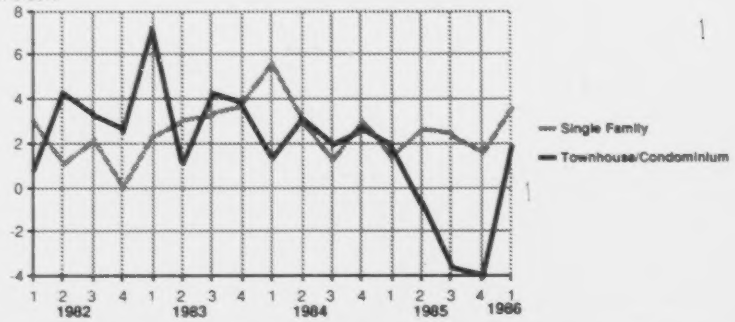
On a per-square-foot basis, the one-year jump in the median price of resale single family properties was the greatest in two years (see Figure I). After three quarters of declining prices, inflation again pushed up the median square-foot price of townhouses and condominiums. The first quarter appreciation rate for single family homes, 0.7 percent, remained in the 0.7 to 0.8 percent range for the 12th consecutive quarter. The value of homes gained just 3 percent during the year ending first quarter 1986.

OUTLOOK

Because of the decline in mortgage interest rates during the first quarter and optimism concerning further drops during 1986, both the number of home sales and the increase in price during 1986 could be greater than in 1985. With the general inflation rate in the Phoenix metropolitan area decelerating rapidly, it probably will be less than the home price gain. The impact of falling mortgage rates on home sales should begin during the second quarter.

— **Tom R. Rex**
Research Manager

FIGURE I
ANNUAL PERCENT CHANGE IN THE MEDIAN SALES PRICE PER SQUARE FOOT OF RESALE HOMES



Source: Center for Business Research, College of Business, Arizona State University.

TABLE 1
METROPOLITAN PHOENIX HOME SALES

	Single Family			Townhouse/Condominium			Grand
First Quarter 1986	*Resale*	*New*	*Total*	*Resale*	*New*	*Total*	**Total**
Median sales price	$75,000	$88,200	$78,000	$63,000	$69,500	$65,000	$75,000
Percent change from:							
Fourth quarter 1985	0.5	1.5	0.1	0.8	3.7	0.9	-0.7
First quarter 1985	5.8	10.4	6.8	0.8	19.8	4.8	4.7
Number of sales	9,492	1,268	10,760	1,653	540	2,193	12,953
Percent change from:							
Fourth quarter 1985	-9.3	-53.2	-18.4	15.6	-27.7	0.7	-15.7
First quarter 1985	17.6	-25.0	10.2	81.6	191.9	100.3	19.3

Source: Center for Business Research, College of Business, Arizona State University; from data supplied by Marketron Services, Inc., Phoenix.

Valley Resale Home Affordability Index Tops 100

The affordability index for resale homes in the Phoenix metropolitan area jumped to 104 in the first quarter, up 10 percentage points from a fourth quarter 1985 high of 94 (see Table 1). This improvement marks the first time an affordability index has reached 100 since the Metropolitan Phoenix Housing Affordability Indexes began in 1981.

An index of 100 indicates that a median-income household is able to qualify for a median-priced home, assuming a fixed-rate, conventional, 30-year mortgage with a 15 percent downpayment, and an income qualification factor of 28 percent. The index exceeded this equilibrium point primarily because of the sharp decline in mortgage interest rates in the Phoenix area.

The local effective interest rate (which includes fees and charges, or "points") on conventional mortgage loans has been falling since mid-year 1984, dropping to 11.0 percent in the first quarter 1986, the lowest rate since the late 1970s. This decline in interest rates more than offset a small increase in median home prices. Thus, the monthly mortgage payment on a median-priced resale home fell to $710, $90 less than the monthly mortgage payment during first quarter 1981, even though the median price of a resale home increased 20 percent during the last five years.

New homes in the Valley are typically more expensive than resale homes and, therefore, less affordable. While the affordability index for new homes has remained below the resale index since the end of 1982 (see Figure I), the gap between the two indexes has widened because the median sales price of new homes has increased at a more rapid rate. The two indexes showed a 15-percentage-point difference during first quarter 1986, up from the 10-percentage-point spread of first quarter 1985. The new home index remained well below 100, moving from 80 to 89 during first quarter 1986.

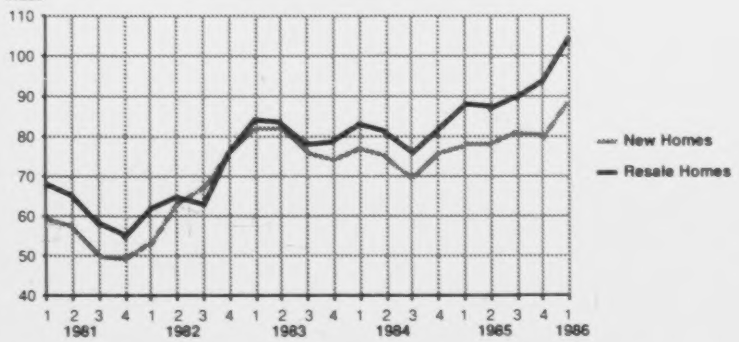
TABLE 1
HOUSING AFFORDABILITY INDEXES
Metropolitan Phoenix

Quarter	Median Sales Price	Interest Rate	Monthly Housing Payment	Median Gross Monthly Income	Affordability Index
Resale					
1st 1985	$70,900	13.4%	$810	$2,540	88
2nd 1985 ...	72,500	13.4	820	2,560	87
3rd 1985	75,000	12.6	800	2,580	90
4th 1985	74,650	12.3	790	2,620	94[r]
1st 1966	75,000	11.0	710	2,660	104
New					
1st 1985	79,925	13.4	910	2,540	78
2nd 1985 ...	81,150	13.4	920	2,560	78
3rd 1985	83,575	12.6	900	2,590	81[r]
4th 1985	86,875	12.3	910	2,620	80
1st 1986	88,197	11.0	840	2,660	89

[r] Revised

Source: Center for Business Research and the Arizona Real Estate Center, College of Business, Arizona State University. Interest rates are from the Federal Home Loan Bank Board *News*, and income figures are derived from the Annual Buying Survey in *Sales and Marketing Management.*

FIGURE I
HOUSING AFFORDABILITY INDEX:
NEW AND RESALE HOMES
Metropolitan Phoenix, 1981-86



Source: Center for Business Research, College of Business, Arizona State University.

COMPARISON TO NATIONAL AFFORDABILITY

National interest rates did not drop as dramatically as local interest rates during first quarter 1986, causing U.S. affordability indexes to remain less than 100. At 88, the U.S. new home index for first quarter 1986 is almost equal to the metropolitan Phoenix index of 89. Conversely, the U.S. resale home index, 98, is considerably below the metropolitan Phoenix index of 104. The difference is due primarily to resale home prices rising more rapidly nationally than in the Phoenix area. For instance, from fourth quarter 1985 to first quarter 1986, the median price of a resale home nationally increased 4.8 percent, while rising only 0.5 percent in the Valley.

OUTLOOK

Interest rates are not expected to increase during the second quarter and may, in fact, decrease further. Thus, the affordability of new and resale homes in metropolitan Phoenix could continue to improve, though not at the pace experienced during the first quarter. The gap between the affordability of new and resale homes probably will not change since the demand for larger new homes should keep their median price well above the median price of resale homes.

- Jacqueline Fifield
Research Analyst

April Purchasing Indicators Stuck in Second Gear

All economic indicators were positive in April, for the third consecutive month. The new orders received, production, and price indicators recorded increases at the same level as in the previous month (see Table 1). The employment and lead-time indicators grew at a greater rate than in March, while the inventory and purchase commitment increase rates dropped a bit. Arizona's economy has been unable to move out of second gear to turn the slow growth rate into a real boom.

The stage appears set for a speed-up in the growth rate, but the spark that will set it off hasn't materialized. However, lower energy costs and interest rates may trigger greater business investment and tilt the growth curve upward. So far, 1986 has been a good, but not a sensational, economic year. The balance of the year should bring a step-up in growth, particularly if interest rates fall further, as expected.

PRICES

Prices paid for major purchased items rose in April at the same rate as in March. Although the overall inflation rate remained well under that often experienced in an expanding economy, it stubbornly continued to be higher than in almost any month of the second half of 1985. Prices paid by Arizona firms have not yet been forced down by the overall softening in energy costs, although the price increase rate remains moderate.

DELIVERY TIME

Delivery time on shipments from vendors stretched at the highest rate since December. This advance signals that economic activity is intensifying, as the flow of incoming business to vendors steps up.

INVENTORIES

Inventory levels of purchased materials grew in April, for the third consecutive month. While the rate of increase was small in each of the preceding three months, it reversed the trend of inventory cuts seen in all but two months during the second half of 1985. While inventory restocking will stimulate economic growth, the rate will have to grow substantially from that experienced in April if it is to have a major effect.

NEW ORDERS

New orders received by Arizona firms gained again, although at a slightly lower rate than in the previous three months. Yet, the month-to-month increase rate in each of the four months of 1986 was greater than in all but three of the months of 1985. While the economy continued to expand, the growth curve did not tilt upward as earlier had been predicted.

PRODUCTION

Production enjoyed an increase rate comparable to those of the previous three months. This growth was consistent with, and driven by, the new order increases.

EMPLOYMENT

Employment went up, for the 16th consecutive month, at the highest rate since September 1984. While the gains have been small over the past year, they have been consistent. The increase rate has stepped up since the beginning of the year.

PURCHASES

Purchases of materials and services by Arizona firms advanced in April, but the rate of increase was down from the previous month and the smallest since December.

— Harold Fearon

Dr. Fearon is the National Association of Purchasing Management Professor in the ASU College of Business.

TABLE 1
APRIL PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (April compared to March)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	24	67	9
Delivery time from vendors	31	61	8
Purchased materials inventory level	32	40	28
New orders received	40	42	18
Production	41	44	15
Employment	25	65	10
Purchases	39	46	15

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

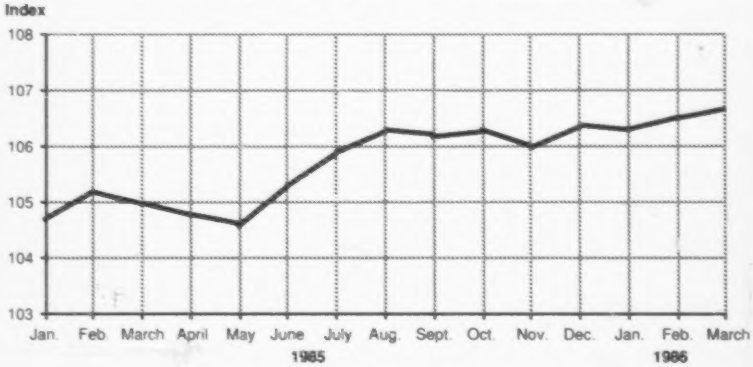
Arizona Purchasing Survey

Now in its 24th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity - higher, unchanged, or lower - of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

Arizona Leading Index Up Again in March

The Arizona Index of Leading Economic Indicators rose moderately in March for the second consecutive month (see Figure I). March's 0.2 percent gain brought the index to a new high of 106.7 from 106.5 in February.

FIGURE I
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source: Center for Business Research, College of Business, Arizona State University.

Only four of the ten index components climbed in March, and only one of those - the national money supply (M2) - grew by more than a minimal amount (see Table 1). March's M2 advance, the greatest in two years, followed a large increase in February. That jump, however, had been preceded by four months of net decline.

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution+			
	Dec.	*Jan.*	*Feb.*	*Mar.*
Delivery Time*	.09	-.08	.03	.02
Inventory Levels*	.00	-.05	.09	.01
New Orders*	.05	-.07	.06	-.04
Production*	.14	-.06	-.03	-.02
Employment*	-.01	-.04	-.03	-.01
Residential Building Permits	-.10	.32	-.29	.01
Unemployment Insurance Claims	.00	-.23	.16	-.16
Average Workweek, Manufacturing	-.14	.18	-.02	-.02
Money Supply	.09	-.09	.32	.46
Change in Sensitive Materials Prices	.00	.01	-.02	-.07
OVERALL INDEX	.32	-.11	.26	.17

+The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

*Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Center for Business Research, College of Business, Arizona State University.

Continuing the saw-toothed pattern of recent months, the number of unemployment insurance claims rose in March (a negative contribution to the leading index). The change in prices of sensitive materials was also moderately negative, but no other component contributed more than a slight negative amount to the index.

The net effect of the five components derived from a monthly survey of Arizona purchasing managers was near zero, with none of the indicators exhibiting much change.

OUTLOOK

While only moderate in magnitude, the index's back-to-back gains in February and March were the strongest since last summer. With a 1.6 percent advance between March 1985 and March 1986, the index still is signaling moderate economic growth for 1986, similar to that experienced in Arizona since late 1984. The chance of a recession beginning before early 1987 remains less than 2 percent.

The national Index of Leading Economic Indicators again rose strongly in March; it has not declined in 10 months. In comparing the national index to the Arizona index, the inherently stronger growth in the national index must be recognized. Even after adjusting for this additional trend, however, the national index indicates a greater acceleration in economic growth. Such a pickup would only offset the sharper decline in growth that occurred nationally between mid-1984 and the end of 1985.

A continuing concern in interpreting both the Arizona and national indexes is that most of their strength has been concentrated in the financial indicators, such as money supply and stock prices. The expected improvement in manufacturing may not develop as rapidly as previously anticipated.

An early look at the April index shows no improvement in the indicators obtained from the survey of Arizona purchasing managers. The net change in these five components was again near zero.

– Tom R. Rex
Research Manager

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date	
					Value	Percent Change from Year Ago
GROSS STATE PRODUCT (In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	4th Qtr.	47.443	2.7	7.9	NA	NA
Arizona - 1982 Dollars	4th Qtr.	43.707	-0.2	5.2	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	1st Qtr.	191.6	0.0	2.0	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	March	106.7	0.2	1.6	NA	NA
BUILDING PERMITS (Total Dollar Value in Thousands)						
Maricopa County	Feb.	321,977	-1	-11	652,523	-8
Pima County	Feb.	91,762	64	29	143,139	11
Balance of State	Feb.	41,810	-18	6	92,996	7
Arizona	Feb.	455,549	4	-3	888,658	-5
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	Feb.	3,966	16	-29	7,410	-31
Pima County	Feb.	887	10	-24	1,469	-40
Balance of State	Feb.	972	6	-16	1,893	-16
Arizona	Feb.	5,825	10	-26	10,772	-31
HOME SALES						
Maricopa County - Number	March	5,345	40	28	12,953	19
Maricopa County - Median Price	March	76,900	2.5	7.7	75,000	4.7
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix - New Homes	1st Qtr.	89	11.3	14.1	NA	NA
Metropolitan Phoenix - Resale Homes	1st Qtr.	104	10.6	18.2	NA	NA
MORTGAGE INTEREST RATES (Conventional, 30-year, Fixed-rate)						
Maricopa County	April	9.8	-2.0	-24.6	NA	NA
POPULATION ESTIMATES (In Thousands)						
Maricopa County	1st Qtr.	1,881	1.3	5.1	NA	NA
Arizona	1st Qtr.	3,343	1.5	4.4	NA	NA
ELECTRICAL POWER SALES (In Millions of Kilowatt Hours)						
Arizona	March	2,613.2	6.5	0.8	7,758.0	-1.2

NA = Not Applicable

Source: Center for Business Research, College of Business, Arizona State University.

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CENTER FOR BUSINESS RESEARCH

Arizona Population Projections

Agencies' Forecasts Vary Greatly

Will 5.6 million people live in Arizona at the end of the century - or "only" 4.4 million? Other choices include a population of 4.7 million or 4.9 million. Each figure represents a population forecast produced by a respected agency.

Such large differences - 1.2 million people is more than one-third of the 1985 population of 3.23 million - have substantial implications for resource and service planning and for quality-of-life concerns. So which forecast is most likely?

ARIZONA FORECAST

The projection of 5.6 million residents in the year 2000 should be discarded. Produced three years ago by the U.S. Bureau of the Census, it relies on a simple extrapolation of population growth and migration patterns during the 1970s. Forecasters did not consider likely changes in demographic and economic conditions, nor did they have access to information revealing abrupt shifts in migration patterns during the 1980s.

The next highest prediction, 4.9 million residents, is the State's official population forecast produced by the Arizona Department of Economic Security (DES). It includes a slightly greater net natural increase between 1980 and 2000 (an average of 30,000 people per year) than occurred during the 1970s (an annual average of 23,000 people). As the number of women of child-bearing age grew during the 1970s, the difference between the number of births and the number of deaths also increased. The gap will narrow slightly through the 1990s, however, as the number of women in this age group declines.

The DES forecast also assumes a jump in net migration to Arizona

See "Population," page 2

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9 May/June Purchasing
10 1st Qtr. GSP
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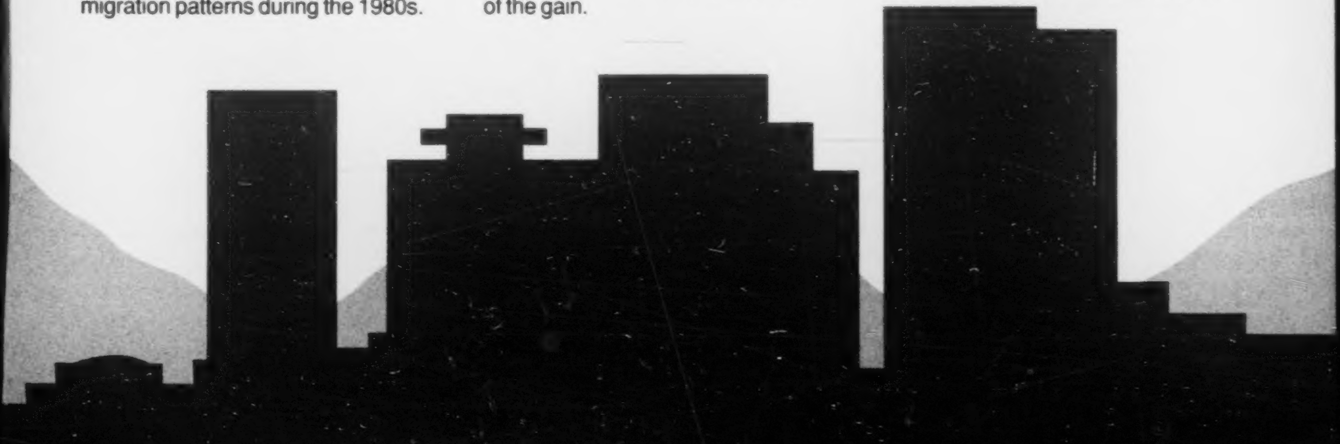
12 AZ Economic Indicators

Record Population Gains Continue

For the third consecutive fiscal year (July 1 to June 30), Arizona and Maricopa County population gains set records in 1986 (see Figure I). Arizona's population reached approximately 3.38 million on June 30, 1986, an increase of 146,000 people since July 1, 1985. Net migration accounted for most (115,000) of the gain.

Maricopa County's population topped 1.9 million during June 1986, an increase of 88,000 from June 1985. The October 1985 special census count - 1,837,956 people - was less than 3,000 more county residents than predicted from the Center's population model.

See "More People," page 2



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JULY/AUGUST 1986

"Population," from page 1

during the 1990s. However, as discussed in the March 1986 *Arizona Business*, demographic changes suggest a decline in migration during the next decade.

Net migration to Arizona averaged 71,000 people per year during the 1970s. Despite record inflows in each of the last three years, average annual net migration during the 1980s - 76,000 people - has not been substantially higher than during the 1970s; two recessions between 1980 and 1982 reduced the gains of the early 1980s. Net migration to Arizona is highly cyclical, so the higher flows between 1984 and 1986 do not represent a trend; in fact, little trend exists in the 1971-86 data (see Figure I). Yet the DES forecast assumes an annual average net migration of 83,000 people from 1986 through 2000.

The 4.7-million-resident forecast, produced by the National Planning Association in 1985, is based on both demographic and economic projections. Assuming the same net natural increase of 30,000 people per year, this forecast infers an annual average net migration of 67,000 people from 1980 through 2000. If the current boom in net migration - projected at more than 100,000 people per year from 1984 through 1987 - lasts much longer, such an average might be feasible, even with inevitable economic downturns and demographic changes during the 1990s.

In 1985, the U.S. Bureau of Economic Analysis produced the lowest forecast - 4.4 million Arizonans at the end of the century. Based primarily on economic projections, this outlook assumes a substantial decline in net migration to Arizona during the 1990s.

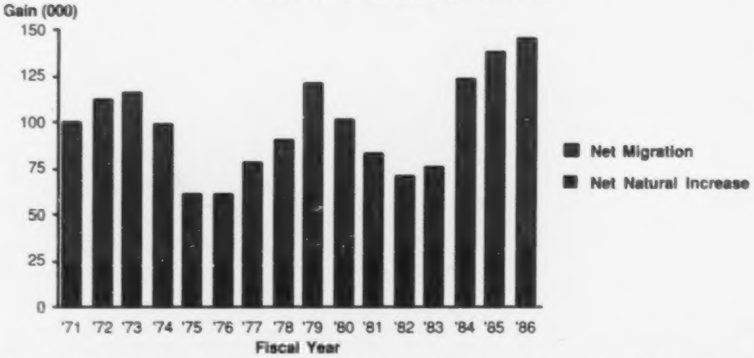
An addition of approximately 1.4 million people to the state's population between 1985 and 2000 seems likely, for a total resident count between 4.6 and 4.7 million. This estimate implies only a modest decline in net migration, to an average of approximately 64,000 people per year.

OTHER STATES

The problem of divergence among the population forecasts of three national agencies is not unique to Arizona. It is even greater for several other states, including Texas and Florida, and is clearly regional in nature. Such large discrepancies (Figure II) reflect the changes in migration patterns of the 1980s.

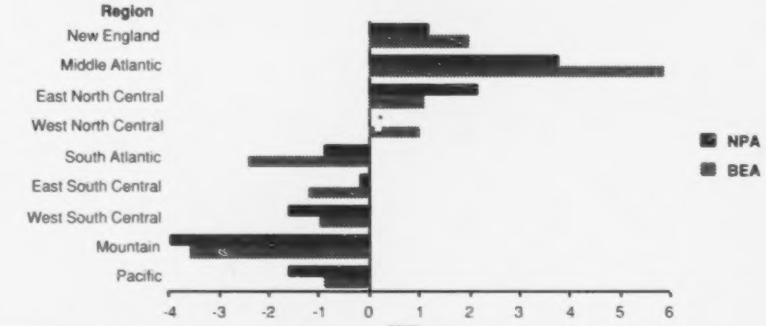
— **Tom R. Rex**
Research Manager

FIGURE I
ARIZONA POPULATION CHANGE



Source: Center for Business Research, College of Business, Arizona State University

FIGURE II
NPA AND BEA POPULATION FORECASTS FOR THE YEAR 2000:
DIFFERENCE FROM U.S. BUREAU OF THE CENSUS FORECAST



* No difference between Census and NPA forecast.

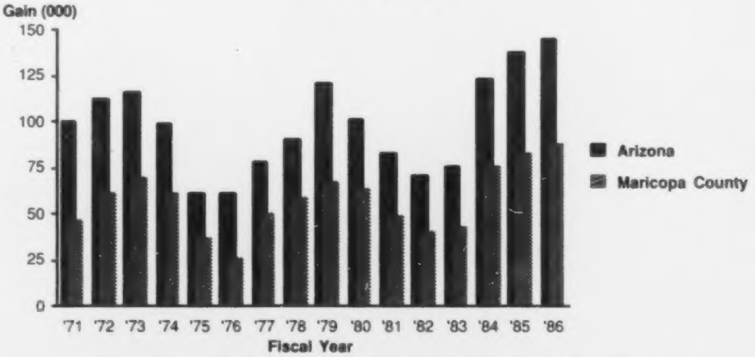
Sources: U.S. Bureau of the Census, National Planning Association (NPA), and U.S. Bureau of Economic Analysis (BEA).

"More People," from page 1

Since net migration to Arizona generally does not peak until just prior to the onset of a national economic downturn, population gains during 1986-87 may again set records.

— **Tom R. Rex**
Research Manager

FIGURE I
ANNUAL POPULATION GAIN



Source: Arizona Department of Economic Security (1970-79) and Center for Business Research, College of Business, Arizona State University (1980-86).

Valley Inflation Remains Minimal

Inflation in the Phoenix metropolitan area was minimal during second quarter 1986, the fourth consecutive quarter of little or no change in prices of goods and services. A 0.5 percent advance brought the index to 192.6 (1977 = 100). On a seasonally adjusted basis, the gain was only 0.4 percent, following slight deflation in the first quarter (Table 1).

Compared to second quarter 1985, the index rose only 0.9 percent. Since the Metropolitan Phoenix CPI began in 1975, it has measured lower inflation only briefly at the end of the 1982 recession.

The annual inflation rate has steadily declined since second quarter 1985, when it peaked at 6.0 percent. During this period, inflation in the Phoenix area has swung from faster to slower than the national average.

TABLE 1
PERCENT CHANGES IN
METROPOLITAN PHOENIX CONSUMER PRICE INDEX

		Seasonally Adjusted from Preceding Quarter					
Expenditure Category	*Relative Importance*	*1st 1985*	*2nd 1985*	*3rd 1985*	*4th 1985*	*1st 1986*	*2nd 1986*
ALL ITEMS	100.0	1.6	1.3	0.3	0.6	-0.2	0.4
Food and Beverages	18.7	1.6	0.9	-0.1	2.3	0.5	1.0
Housing	39.5	1.2	0.6	1.8	-0.4	0.7	0.2
Apparel and Upkeep	4.8	1.8	3.3	-1.9	2.5	-3.3	5.6
Transportation	21.2	2.0	2.0	-2.1	-0.6	-2.5	-1.9
Medical Care	6.9	2.6	2.7	1.6	1.8	1.3	1.7
Entertainment	4.6	2.9	3.5	2.1	5.3	-1.7	2.4
Other Goods and Services	4.3	1.7	1.7	-0.2	1.2	1.7	0.7

TABLE 2
METROPOLITAN PHOENIX CONSUMER PRICE INDEX
Second Quarter 1986

	Index (1977=100)		Percent Change from	
Expenditure Category	*Last Quarter*	*This Quarter*	*Last Quarter **	*Year-Ago Quarter*
ALL ITEMS	191.6	192.6	0.4	0.9
Food and Beverages	176.5	178.3	1.0	3.6
Food	176.8	178.5	0.9	3.2
Food at Home	174.7	175.2	0.5	2.7
Cereal and Bakery Products	194.5	197.8	1.5	6.1
Meats, Poultry, Fish, and Egg	158.9	156.3	-0.5	-1.0
Dairy Products	162.9	162.2	-0.6	1.3
Fruits and Vegetables	186.9	190.0	0.5	0.5
Other Food at Home	168.8	170.9	1.8	7.1
Food Away from Home	178.1	181.9	1.5	4.0
Housing	200.3	202.2	0.2	2.3
Shelter	217.2	218.1	0.5	3.5
Renters' Costs**	116.6	116.4	-0.3	1.8
Homeowners' Costs**	109.5	110.4	0.8	4.2
Fuel and Other Utilities	164.2	172.2	0.1	-2.1
Gas (piped) and Electricity	174.1	188.7	0.4	-3.6
Household Furnishings/Operations	154.5	153.6	-0.8	1.9
Apparel and Upkeep	144.0	151.7	5.6	2.6
Transportation	180.9	178.2	-1.9	-7.1
Private Transportation	178.0	175.0	-2.2	-7.6
New and Used Cars	190.0	191.0	1.3	-1.6
Motor Fuels	173.6	154.9	-15.7	-28.2
Public Transportation	227.8	230.3	1.5	-1.0
Medical Care	266.8	267.4	1.7	6.4
Entertainment	197.1	195.1	2.4	8.1
Other Goods and Services	175.9	177.1	0.7	3.3

*Seasonally adjusted   **Base period is second quarter 1983.

Source (Tables 1 and 2): Center for Business Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank.

COMPONENT INDEXES

For the fourth consecutive quarter, declining gasoline prices were the greatest, but not the only, factor causing the near absence of inflation in the Phoenix area. Inflation moderated in all major categories of the CPI. Between second quarter 1985 and second quarter 1986, the annual inflation rate dropped from 4.8 to 2.3 percent for housing, from 4.9 to 3.6 percent for food and beverages, from 10.8 to 6.4 percent for medical care and from 8.2 to -7.1 percent for transportation.

Food and Beverages

Price increases for food and beverages remained moderate during the second quarter, rising 1.0 percent (seasonally adjusted). Grocery store food increases were smaller, 0.5 percent, but the cost of restaurant meals climbed 1.5 percent and prices of alcoholic beverages shot up 2.8 percent.

Within the food at home category, wide variation in price changes continued (see Table 2). Prices of cereal and bakery products and of other food at home once again gained moderately, while prices of dairy products and of meats, poultry, fish and eggs declined. Compared to second quarter 1985, price changes ranged from -1.0 percent for the meats group to 7.1 percent for other food at home.

Housing

With most subcategories exhibiting little change, housing costs barely rose during the second quarter. Apartment rents recorded a rare decline, following two quarters of slight advances. High vacancy rates could hold rental increases to minimal amounts for several more quarters.

Prices of fuel and other utilities were nearly flat, following two successive declines. Natural gas rates dropped for the seventh consecutive quarter.

After a large gain last quarter, the index for household furnishings and operations fell. Contributing to the decline were lower prices of textile home furnishings; furniture; television, radio and sound equipment; and other household equipment.

Transportation

Led by falling gasoline prices, transportation costs dropped 1.9 percent, the fourth consecutive quarterly decline. Coupled with reductions of previous quarters, the 15.7 percent plunge in gasoline prices placed them 28.2 percent lower than they were in second quarter 1985.

In the three previous quarters, the indexes of several other transportation subcategories fell, but only vehicle finance charges dropped during the second quarter; the decline since second quarter 1985 totaled 6.6 percent. Despite increases in the second quarter, the indexes of several subcategories remained lower than they were one year before: used cars, vehicle maintenance and repair, and public transportation.

Medical Care and Other Categories

Medical care inflation remained in the range of 1.3 to 1.8 percent per quarter for the fourth straight quarter after a string of advances of 2 percent or more. Annual increases in all subgroups were back into single digits; health insurance premiums were just 3.6 percent higher than they were one year earlier.

Apparel costs continued to fluctuate from quarter to quarter, up sharply in the second quarter, following a large drop in the first quarter. Entertainment costs again rose more rapidly than the prices of most other items.

COMPARISON AREAS

Although slight, the second quarter inflation rate in the Phoenix area was greater than the national average (see Table 3). Advances in the Valley exceeded the national average in all major categories except medical care and entertainment.

TABLE 3
METROPOLITAN PHOENIX CONSUMER PRICE INDEX
UNITED STATES AND COMPARATIVE CITIES
Second Quarter 1986

	Percent Change from Last Quarter*		Percent Change from One Year Ago			
Expenditure Category	*Phoenix*	*United States*	*Phoenix*	*United States*	*Denver*	*San Diego*
ALL ITEMS	0.5	-0.4	0.9	1.6	0.0	2.9
Food and Beverages	1.0	0.6	3.6	2.8	-0.4	3.9
Housing	1.0	0.6	2.3	2.9	1.6	5.6
Apparel and Upkeep	5.3	1.1	2.6	0.5	-1.9	0.6
Transportation	-1.5	-4.2	-7.1	-4.9	-6.7	-4.0
Medical Care	0.2	1.8	6.4	7.6	8.9	5.9
Entertainment	-1.0	0.3	8.1	3.5	0.9	4.4
Other Goods and Services	0.7	0.5	3.3	6.1	5.7	4.3

*Not seasonally adjusted

Source: Metropolitan Phoenix data compiled by the Center for Business Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank; other data are from the U.S. Department of Labor, Bureau of Labor Statistics.

Compared to one year earlier, the Phoenix inflation rate was again less than the national average. While increases in the apparel and upkeep and the entertainment categories were greater in the Valley than in each comparison area, the opposite was true of the transportation and the other goods and services categories.

OUTLOOK

With oil prices and interest rates stabilizing, the best inflation news already has been reported. An immediate return to the higher inflation experienced between mid-1983 and mid-1985 is not likely, however. In fact, the Phoenix area may experience one more quarter of inflation comparable to that of the four prior quarters, before the rate of increase gradually accelerates.

Inflation in most major cagegories probably will remain stable or accelerate slightly through 1987. However, after one more quarter of moderate gains, medical care inflation could accelerate. Inflation in the transportation category is virtually certain to return, but perhaps not for one more quarter. With gasoline prices still falling at the beginning of the third quarter, a fifth straight quarter of deflation in transportation prices may occur.

The result should be a 1986 annual average inflation rate of 1.5 percent, down from 5.0 percent in 1985 and 5.8 percent in 1984. Since the 1986 annual average nationally probably will be near 2 percent, the Valley's higher inflation of the past two years likely will be reversed.

By the end of 1987, Phoenix area inflation probably will rise to a year-over-year rate of 5 percent, resulting in an annual average of approximately 4 percent. The national average probably will be similar. Caution should be exercised, however: Unexpected "shocks," as occurred during 1983 and 1984 – a 48 percent surge in health insurance premiums and a 21 percent jump in used car prices, for example – could quickly drive the Valley's inflation rate back to 6 percent.

— Tom R. Rex
Research Manager

Construction Activity Surges in First Quarter

After a disappointing fourth quarter, construction activity in Arizona demonstrated strong improvement during the initial quarter of 1986. Building permits valued at $1.4 billion (27,387 permits) were issued, in contrast to $1.1 billion (23,716 permits) for fourth quarter 1985. As shown in the accompanying tables, the single family, hotel/motel, retail, and office building sectors led the resurgence.

Maricopa County continued to be the primary location of building activity, with 17,083 permits, valued at $1 billion – 71 percent of the total. This level of activity is comparable to that of first quarter 1985 (17,039 permits worth $1 billion), but it is well above that of fourth quarter 1985 (13,525 permits, worth $795 million).

With 4,255 permits valued at $215 million, Pima County registered even greater improvement over the fourth quarter (4,019 permits, worth $130 million), rising to a level similar to that of one year earlier (4,212 permits, worth $202 million). Table 4 presents the 12 most active reporting units, based on total dollar value, which represent 86 percent ($1.2 billion) of all Arizona construction activity for the first quarter.

SECTORAL ACTIVITY

Residential

Unlike prior recoveries, the current upturn has not featured the single family sector in a leading role. Lower interest rates, coupled with stable housing prices, sparked improvement in housing affordability during 1985. Even though the level of response has not been as strong as expected, the state's first quarter 1986 total of 8,414 permits provides evidence that this sector finally may be responding to the improved market environment.

Maricopa County recorded a first quarter increase of 42 percent over the fourth quarter building permit level (4,260 to 6,057 permits). While a significant advance, the first quarter level of activity was still below the quarterly levels of 1985. Showing greater activity than one year earlier were areas such as Gilbert (89 to 198 permits), Glendale (353 to 525 permits), and unincorporated Maricopa County (804 to 930 permits).

Pima County's pattern was similar, with a 15 percent rise in the first quarter over the fourth quarter (875 to 1,002 permits), still well below the other 1985 quarterly levels. Most of the single family homes were permitted in unincorporated Pima County (793 permits) rather than in the city of Tucson (190 permits).

The rest of Arizona followed the same pattern, with only a 6 percent increase over the fourth quarter (1,277 to 1,355 permits). Leading areas included Flagstaff (78 permits), unincorporated Cochise County (70 permits), Prescott (66 permits), and Yuma (74 permits).

Commercial

The most significant area of commercial development during the first quarter was the hotel/motel sector, with 22 permits (4,000 rooms), valued at $129 million. This activity level already exceeds the $113 million (69 permits for 4,000 rooms) recorded for all of 1985. Hotel/motel development occurred in Phoenix (4 permits, worth $69 million, for 2,100 rooms), Tucson (5 permits, worth

TABLE 1
KEY SECTOR CONSTRUCTION ACTIVITY
(First Quarter 1986, Fourth Quarter 1985, and First Quarter 1985)

			COMMERCIAL							
	SINGLE FAMILY		APARTMENTS[a]		OFFICE BUILDINGS[b]		RETAIL STORES[c]		INDUSTRIAL	
	Number of Permits	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*
Maricopa County										
First Quarter 1986	6,057	399,130,852	335	135,721,459	87	81,706,773	257	69,653,584	77	50,455,191
Fourth Quarter 1985 ...	4,260	303,592,384	329	141,572,487	108	48,711,474	225	48,644,558	151	66,749,258
First Quarter 1985	6,277	408,567,268	438	215,821,238	94	76,507,122	227	62,974,489	151	90,747,607
Pima County										
First Quarter 1986	1,002	64,258,025	58	20,584,545	39	40,970,882	25	13,405,343	9	1,087,500
Fourth Quarter 1985 ...	875	55,767,139	30	14,409,024	35	17,069,004	13	2,446,336	22	5,906,875
First Quarter 1985	1,019	57,912,007	87	50,689,954	26	26,798,312	25	10,785,360	27	8,599,202
Rest of Arizona										
First Quarter 1986	1,355	68,746,450	54	17,673,242	35	2,370,188	66	6,634,873	26	2,503,567
Fourth Quarter 1985 ...	1,277	64,986,560	41	12,473,654	32	5,146,440	63	7,319,401	11	2,554,536
First Quarter 1985	1,257	59,182,724	34	13,449,337	34	1,918,514	69	9,331,777	35	2,381,128
Arizona Total										
First Quarter 1986	8,414	532,135,327	447	173,979,246	161	125,047,843	348	89,693,800	112	54,046,258
Fourth Quarter 1985 ...	6,412	424,346,083	400	168,455,165	175	70,926,918	311	58,410,295	184	75,210,669
First Quarter 1985	8,553	525,661,999	559	279,960,529	154	105,223,948	321	83,091,626	213	101,727,937

[a] Five or more housing units

[b] Office, bank, medical and professional buildings

[c] Shopping centers and other mercantile buildings

Source: Center for Business Research, College of Business, Arizona State University

$28 million, for 790 rooms), and Scottsdale (1 permit, worth $14 million, for 380 rooms).

Retail activity improved again in the metropolitan areas but declined in the non-metropolitan areas. This development pattern is in response both to growing economies and to new single family subdivisions. Maricopa County issued a near record $70 million in building permits, while Pima County's permits were valued at $13 million, well above the quarterly activity of one year earlier.

Even with much publicized concern about the office building sector, a total of 81 permits, valued at $82 million, were issued during the first quarter in Maricopa County. Primary areas of development were Phoenix (31 permits at $54 million) and Scottsdale (15 permits at $12 million). While strong, this level of activity is still well below the record 1985 levels of $168 million for the second quarter and $91 million for the third quarter. Pima County recorded 39 office building permits, valued at $41 million; one permit accounted for $21 million of the total.

Multifamily housing development, which had been a leading sector for the last two years, continued to decline. Although the number of first quarter permits increased in Maricopa County over the fourth quarter (329 to 335 permits), the number of authorized units declined from 5,728 to 4,908 for the same period. Still, the dollar value remained fairly stable at $136 million. This situation reflects the development of larger units with more amenities in order to be more competitive with other projects as well as with the growing single family market.

In Pima County, the number of authorized units increased from the fourth quarter (664 to 854 units), with 763 units permitted in Tucson. The multifamily sector also improved in the non-metropolitan counties, moving from 513 units in the fourth quarter to 924 units in the first quarter. Leading areas of development were Yuma (304 units), Sierra Vista (372 units), and Flagstaff (84 units).

TABLE 2
ARIZONA HOUSING UNITS AUTHORIZED
First Quarter 1986

	One Family	*Mobile Homes*	*Duplex*	*3-4 Family*	*5 or More*	*Total*
APACHE COUNTY	12	8	0	0	0	20
Percent Change, Previous Year	-58	300	0	–	–	-60
Percent Change, Previous Qtr.	-39	14	0	–	–	-25
COCHISE COUNTY	143	121	0	24	383	671
Percent Change, Previous Year	88	68	–	500	-15	10
Percent Change, Previous Qtr.	74	95	–	200	7,559	327
COCONINO COUNTY	147	65	12	0	84	308
Percent Change, Previous Year	24	20	500	0	-29	4
Percent Change, Previous Qtr.	26	-20	-50	–	500	28
GILA COUNTY	52	55	0	0	0	107
Percent Change, Previous Year	23	41	0	–	0	25
Percent Change, Previous Qtr.	0	17	0	0	0	8
GRAHAM COUNTY	13	44	0	0	0	57
Percent Change, Previous Year	-7	2	0	0	0	0
Percent Change, Previous Qtr.	-38	4	0	0	0	-9
GREENLEE COUNTY	1	0	0	0	0	1
Percent Change, Previous Year	–	–	0	0	0	0
Percent Change, Previous Qtr.	0	–	0	0	0	-50
LA PAZ COUNTY	45	234	0	0	0	279
Percent Change, Previous Year	542	631	–	–	–	615
Percent Change, Previous Qtr.	800	835	–	–	–	829
MARICOPA COUNTY	6,057	445	90	350	4,908	11,850
Percent Change, Previous Year	-3	-11	-48	-14	-41	-24
Percent Change, Previous Qtr.	42	-46	-60	24	-14	4
MOHAVE COUNTY	252	356	2	8	0	618
Percent Change, Previous Year	-8	-35	–	-66	–	-34
Percent Change, Previous Qtr.	5	-31	–	–	–	-21
NAVAJO COUNTY	68	26	0	0	0	94
Percent Change, Previous Year	30	-59	–	–	–	-18
Percent Change, Previous Qtr.	-10	-59	–	–	–	-33
PIMA COUNTY	1,002	516	34	11	854	2,417
Percent Change, Previous Year	-1	4	-51	-44	-59	-34
Percent Change, Previous Qtr.	14	10	-34	-21	28	16
PINAL COUNTY	124	273	4	10	63	474
Percent Change, Previous Year	2	18	-90	150	10	4
Percent Change, Previous Qtr.	-15	5	–	-44	293	7
SANTA CRUZ COUNTY	31	42	0	0	0	73
Percent Change, Previous Year	121	-10	–	–	–	8
Percent Change, Previous Qtr.	14	2	–	–	–	-7
YAVAPAI COUNTY	344	186	12	41	90	673
Percent Change, Previous Year	-16	-21	-39	-10	350	-8
Percent Change, Previous Qtr.	-9	-19	500	57	650	3
YUMA COUNTY	123	180	4	7	304	618
Percent Change, Previous Year	25	-23	–	-36	2,433	73
Percent Change, Previous Qtr.	11	-1	0	16	-29	-16
TOTAL, ARIZONA	8,414	2,551	158	451	6,686	18,260
Percent Change, Previous Year	-1	-1	-49	-14	-40	-21
Percent Change, Previous Qtr.	31	-10	-49	25	-3	8

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Center for Business Research, College of Business, Arizona State University

Industrial

Industrial activity declined as expected because last year's building was dominated by single, large-user projects. Only $50 million in new industrial projects were permitted in Maricopa County for the initial quarter of 1986, in contrast to $67 million for the fourth quarter and $91 million for first quarter 1985. Leading areas of activity continued to be Phoenix (38 permits at $19 million) and Tempe (9 permits at $8 million), but Chandler (8 permits at $6 million) and Tolleson (2 permits at $11 million) reported stronger-than-typical levels of activity.

Industrial development continued to decline in Pima County, where only 9 permits, valued at $1 million, were issued in the first quarter - the lowest level reported in the last year. For the rest of Arizona, the number of permits increased from the fourth quarter (11 to 26 permits), while dollar value remained stable at $2.5 million. Areas of development include Sierra Vista (5 permits at $500,000), Eloy (1 permit for $400,000) and Lake Havasu City (3 permits at $500,000).

Other

This construction sector encompasses a diverse set of development projects such as schools,

TABLE 3
ARIZONA BUILDING PERMITS
First Quarter 1986

	Residential*		Commercial		Industrial		Other		Total	
	Number of Permits	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*
APACHE COUNTY	26	854,582	3	40,000	0	0	6	1,210,912	35	2,105,494
Percent Change, Previous Year	-34	-37	-25	-21	0	0	0	–	-29	48
Percent Change, Previous Qtr.	-21	-28	-57	-90	0	0	100	7972	-18	29
COCHISE COUNTY	416	9,875,425	50	9,247,860	8	860,880	177	2,190,513	651	22,174,678
Percent Change, Previous Year	67	108	212	-18	300	209	-35	-14	20	17
Percent Change, Previous Qtr.	59	68	136	64	166	-45	-2	23	39	49
COCONINO COUNTY	308	10,119,346	25	2,769,647	6	347,761	99	1,038,914	438	14,275,668
Percent Change, Previous Year	40	37	-10	-53	200	4	26	-60	33	-12
Percent Change, Previous Qtr.	-14	13	66	165	–	–	16	-33	-4	23
GILA COUNTY	169	3,773,363	8	687,100	2	46,000	30	211,960	209	4,718,423
Percent Change, Previous Year	2	26	300	223	-50	-62	25	39	7	35
Percent Change, Previous Qtr.	-6	5	100	219	–	–	-28	-71	-7	4
GRAHAM COUNTY	86	1,460,064	5	16,300	0	0	21	3,313,770	112	4,790,134
Percent Change, Previous Year	-13	21	0	-76	–	–	-15	–	-15	256
Percent Change, Previous Qtr.	-13	-14	-44	-86	0	0	109	–	-5	160
GREENLEE COUNTY	2	5,000	0	0	0	0	0	0	2	5,000
Percent Change, Previous Year	-59	-89	0	0	0	0	0	0	-59	-89
Percent Change, Previous Qtr.	-50	-81	0	0	0	0	0	0	-50	-81
LA PAZ COUNTY	309	2,169,174	3	98,194	1	1,300	46	266,219	359	2,534,887
Percent Change, Previous Year	382	87	-57	-84	0	-95	-31	-27	158	16
Percent Change, Previous Qtr.	432	146	-57	-16	–	–	-47	-29	134	83
MARICOPA COUNTY	8,615	420,829,340	956	409,065,077	77	50,455,191	7,435	167,989,389	17,083	1,048,338,997
Percent Change, Previous Year	-1	-2	-1	4	-49	-44	3	39	0	1
Percent Change, Previous Qtr.	22	29	11	44	-49	-24	35	39	26	31
MOHAVE COUNTY	986	17,714,533	26	1,427,763	3	560,294	483	2,012,037	1,498	21,714,627
Percent Change, Previous Year	-13	4	-61	-82	50	471	-16	-21	-16	-21
Percent Change, Previous Qtr.	-8	14	-36	-30	200	1597	41	-1	2	10
NAVAJO COUNTY	177	3,649,369	7	321,671	3	83,412	48	392,600	235	4,447,052
Percent Change, Previous Year	1	43	-12	-85	–	–	77	-24	12	-15
Percent Change, Previous Qtr.	-4	4	-41	-27	200	96	11	-71	-2	-16
PIMA COUNTY	2,514	70,062,702	137	108,763,393	9	1,087,500	1,596	35,192,191	4,256	215,105,786
Percent Change, Previous Year	8	7	-12	5	-66	-87	-7	37	1	6
Percent Change, Previous Qtr.	5	12	21	186	-59	-81	7	48	5	65
PINAL COUNTY	512	9,068,072	20	3,534,575	1	400,000	280	2,597,407	813	15,600,054
Percent Change, Previous Year	9	13	-16	114	-75	230	20	78	11	38
Percent Change, Previous Qtr.	0	-17	-16	0	–	–	-44	-50	-21	-20
SANTA CRUZ COUNTY	84	1,442,480	1	1,000	0	0	3	79,582	88	1,523,062
Percent Change, Previous Year	21	59	-50	-99	0	0	-79	-74	2	11
Percent Change, Previous Qtr.	13	-13	-66	-99	0	0	-69	-21	1	-24
YAVAPAI COUNTY	707	22,201,910	52	5,472,867	0	0	218	2,314,400	977	29,989,177
Percent Change, Previous Year	-11	-7	13	43	–	–	-5	-62	-9	-13
Percent Change, Previous Qtr.	-13	-11	57	55	–	–	6	12	-7	-2
YUMA COUNTY	413	12,087,786	34	10,396,621	2	203,920	187	2,239,185	636	24,927,512
Percent Change, Previous Year	-6	11	21	163	-83	-77	20	68	0	46
Percent Change, Previous Qtr.	-2	11	-35	-15	-50	-70	7	-25	-3	-7
TOTAL, ARIZONA	15,324	585,313,146	1,327	551,842,068	112	54,046,258	10,629	221,049,079	27,392	1,412,250,551
Percent Change, Previous Year	2	1	-2	3	-47	-46	0	34	0	2
Percent Change, Previous Qtr.	13	22	10	57	-39	-28	22	36	16	32

*Includes mobile homes

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Center for Business Research, College of Business, Arizona State University

churches, and health care facilities. The building of educational facilities continued at a strong pace, with new projects valued at $37 million in areas such as unincorporated Pima County (2 permits at $2.7 million) and Phoenix (17 permits at $21 million). Health care facilities continued to be permitted at a stable level (10 permits, worth $23 million), but one permit issued in Phoenix was valued at $14 million (Phoenix General Hospital).

LOOKING AHEAD

Although 1986 began at its expected strong pace, the fundamental concern is whether the pace can be sustained. Market conditions are not especially positive for any one construction sector. If interest rates remain at their current level, the single family sector is the only one that could sustain or improve its current level of activity. Given a fairly balanced market, the industrial sector should remain at its current level of activity throughout 1986. In response to emerging residential subdivisions, the retail sector also should maintain its present level of activity for the rest of the year. Only these sectors have the potential to improve over the current quarter.

Concern about market strength is especially evident in the commercial area. For the first quarter, the hotel/motel sector set the pace, accounting for all of the growth in the com-

TABLE 4
REPORTING UNITS WITH GREATEST TOTAL VALUE OF BUILDING PERMITS
First Quarter 1986

Reporting Unit	Value *(in millions)*
Phoenix	$400.9
Scottsdale	136.6
Mesa	124.6
Tucson	124.4
Unincorporated Pima County	88.5
Tempe	85.1
Unincorporated Maricopa County	79.5
Glendale	78.3
Chandler	59.8
Peoria	19.5
Unincorporated Yavapai County	17.9
Yuma	16.9

Source: Center for Business Research, College of Business, Arizona State University.

mercial area. After this record level of quarterly activity, the hotel/motel sector should appreciably slow during the remainder of the year. The office building sector had a good initial quarter, but activity should decline during the latter quarters of 1986. The multifamily sector has already begun to respond to weaker market conditions and should return to the historical pattern of less activity than the single family sector.

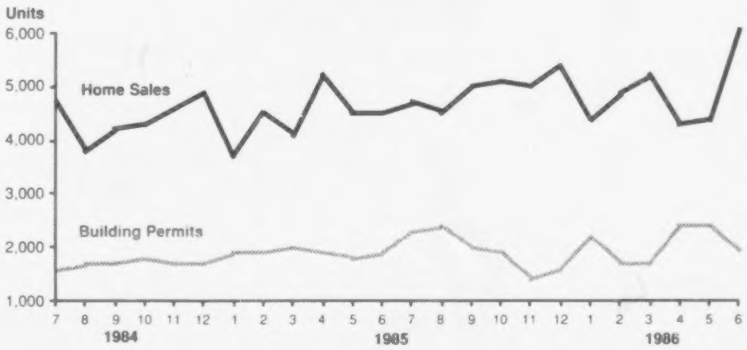
Because construction activity has been so good for the last few years, concern exists that the various markets are not currently strong enough to absorb all of the new building in a reasonable period of time. Hence, construction activity is expected to slow during 1986 as developers examine the current and potential strength of the market.

— **Jay Q. Butler**

Dr. Butler is Associate Professor of Real Estate and Director of the Arizona Real Estate Center in the ASU College of Business.

Dips in Mortgage Rates Boost Home Construction and Sales

FIGURE I
BUILDING PERMITS AND HOME SALES
Seasonally Adjusted Monthly Activity
Maricopa County



Source: Center for Business Research, College of Business, Arizona State University

Between April 1985 and April 1986, mortgage interest rates in the Phoenix metropolitan area fell more than three percentage points, briefly dipping below 10 percent. Nearly all of the decline occurred during three short periods: late May 1985, November and December 1985, and late February and early March 1986. After each period, an increase was measured, first in the number of building permits issued for single family homes (including townhouses), then in the number of sales of both new and existing homes.

On a seasonally adjusted basis, the number of permits for single family homes has remained in a narrow 1,600-to-2,000 band nearly every month since early 1983. However, one month after each of the three episodes of declining interest rates, the number of permits climbed into the 2,200-to-2,400 range but did not remain at the higher level for more than two months. Thus, the positive impact of falling interest rates was limited to July and August 1985 and January, April and May 1986.

While the seasonally adjusted number of home sales varies considerably more from month to month than the number of building permits issued (see Figure I), sales for most months since 1984 have totaled approximately 4,500 homes. Sales never exceeded 5,000 homes in consecutive months, except following each period of declining interest rates.

Because of the time required for a buyer to select a home and to obtain financing, a higher level of real estate recordings has not begun until two-to-three months after each decline in interest rates. However, the higher level of sales has extended up to four months. More than 5,000 home sales were recorded between September and December 1985 and again in February and March 1986. The decline in interest rates at the end of February caused sales during June to set a monthly record of 6,100 homes.

— **Tom R. Rex**
Research Manager

June Purchasing Indicators Sink into Doldrums

The Arizona economy was in the doldrums in June, as performance on all economic indicators weakened. New orders received, production, and employment - key indicators - all were positive but barely so. Inventory levels of purchased materials were unchanged, and purchase commitments actually declined for the first time in more than three years. Prices increased at the greatest rate in close to two years. In short, June was not a good month.

The economy had flashed conflicting signals in May, as the economic growth rate was having difficulty picking up speed. Inventory levels decreased, following three months of accumulation. New orders increased but at a lower rate than in April. Production also was higher, but the growth rate was much smaller than in the previous month and the lowest since November. The May employment indicator, however, turned in its best performance in almost two years.

Economic growth during the first half of 1986 was much less than anticipated. If this sluggish performance continues, the long-run, moderate expansion easily could turn into a mini-recession in the second half of the year. No upturn can occur until industrial demand increases, which could be triggered by the much-anticipated decrease in interest rates by the Federal Reserve Board. Lacking such action by the Fed, the economy will continue its marginal performance, or a downward spiral may begin. Interest rates, although lower now than a few months ago, are still too high to produce the resurgence of demand needed to stimulate a resumption of growth.

Table 1 presents the results of the May and June surveys of Arizona purchasing managers. Analysis of these results follows.

MAY

Prices paid for major purchased items advanced in May at the same rate as in April. Prices had increased at a consistent rate over each of the preceding five months. While somewhat greater price advances occurred during the first half of 1986 than during the previous year, they still were well under rates for the 1983-84 period.

Delivery time on shipments from vendors lengthened at the same rate as in April. May was the eighth consecutive month of lead time stretch-out. As vendors' order books and backlogs grow, overall economic performance should continue to improve.

Inventory levels of purchased materials recorded a slight drop in May, following increases in each of the previous three months. Levels remain well under control, largely due to the better inventory management methods that Arizona firms are using. However, inventory rebuilding, often a key factor in stimulating economic growth, has contributed little to the current expansion.

New orders received by Arizona firms grew in May at a somewhat lower rate than during each of the first four months of the year. While the Arizona economy continued to enjoy a healthy new order rate, the economic expansion was still relatively moderate and was not picking up speed.

Production increased again in May but at the smallest rate since November. Production gains did not provide much stimulus to an acceleration in the economic expansion.

Employment, enjoying the largest jump since July 1984, also was strong in each preceding month of 1986.

Purchases of materials and supplies by Arizona firms gained again in May, as needed to support rising new order and production rates.

JUNE

Prices paid for major purchased items advanced again in June, at close to twice the rate of the previous month. This surge was the largest monthly increase rate since July 1984. The overall industrial inflation rate now is stepping up, as the effects of plummeting oil prices have worn off. A continuation of this inflationary trend will make it less likely that a major upward movement will occur during the second half of 1986.

Delivery time on shipments from vendors continued to lengthen in June but at half the May rate. The

Arizona Purchasing Survey

Now in its 24th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity - higher, unchanged, or lower - of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

TABLE 1
PURCHASING SURVEYS

Percent of Purchasing Managers Indicating Each Response (Compared to Prior Month)

	May 1986			June 1986		
Key Indicators	*Higher*	*Same*	*Lower*	*Higher*	*Same*	*Lower*
Prices paid for major commodities	26	62	12	34	76	9
Delivery time from vendors	28	66	6	21	68	11
Purchased materials inventory level	25	48	27	28	44	28
New orders received	39	39	22	36	35	29
Production	30	50	20	32	38	30
Employment	28	63	9	25	56	19
Purchases	38	46	16	29	39	32

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

smallest net lead-time increase since September 1985 marked the ninth consecutive month of longer lead times. However, vendor backlogs are shrinking as the economic growth curve flattens out.

Inventory levels of purchased materials, unchanged in June following May's slight drop, have been essentially stable, with only slight ups and downs since April 1985. Inventory growth has not added fuel to the faltering economic expansion.

New orders received by Arizona firms advanced at less than half the May rate, the lowest monthly increase rate since December 1984. The growth rate steadily decreased over each of the preceding four months. No pronounced economic upturn can occur unless order receipts show new life.

Production remained almost stable in June, registering its smallest monthly increase since December 1982. Following new order receipts closely, production rates ratcheted steadily downward over the preceding three months.

Employment rose again, for the 18th consecutive month, but at a much lower rate than in May and at the lowest rate since January.

Purchases of materials and supplies by Arizona firms registered a net decrease in June, the first since this series began in March 1983. Such a decline indicates that Arizona's economic growth softened during the first half of 1986.

– Harold Fearon

Dr. Fearon is the National Association of Purchasing Management Professor in the ASU College of Business.

GSP Growth Accelerates in First Quarter

The Arizona Gross State Product (GSP) expanded at a vigorous, inflation-adjusted 12.5 percent annual rate during first quarter 1986. The surge followed three successive quarters of relatively slow growth (see Table 1). The first quarter growth rate was comparable to that of the first quarters of 1984 and 1985, but, as in those years, it is not likely to be sustained.

Both the Arizona and national economies have grown in a saw-toothed fashion since mid-1984, with increases during the first and third quarters greater than those during the second and fourth quarters. The Arizona economy grew more than three times as fast as the national economy during the first quarter, an unusually wide difference but comparable to the spread during most of 1985. Record population gains are responsible for the relative strength of the Arizona economy.

Adjusted GSP, which excludes the volatile mining and agricultural industries, did not rise quite as much as total GSP during first quarter 1986: Agricultural GSP jumped, growing at more than a 100 percent annualized rate and reversing most of the previous quarter's sharp decline. Most sectors experienced healthy growth, but the production industries continued to have problems. Mining's GSP fell, and the advance in the manufacturing industry was slight.

1985 REVISIONS

After changes to most data used to calculate the GSP, growth during 1985 – 7.6 percent – was stronger than originally reported (6.8 percent). The fourth quarter increase rose to 3.5 percent from near zero. Further upward revision is possible when 1985 personal income data are revised in the fall.

The 1985 estimate of Gross National Product (GNP) also was revised higher, from 2.2 percent to 2.7 percent. Thus, despite considerable concern about the economy, growth was well above average in Arizona and near average nationally.

OUTLOOK

While weaknesses are apparent in the Arizona economy, such as in the manufacturing sector, GSP reveals that the overall economy remains healthy. The rate of growth during 1986 should slow from last year's 7.6 percent (the increase between first quarter 1985 and first quarter 1986 was 6.9 percent), but the Arizona economy should expand more rapidly than the 5.7 percent long-term average.

– Tom R. Rex
Research Manager

TABLE 1
ECONOMIC GROWTH

	Arizona Gross State Product[r]				Gross National Product[r]
Quarter	*Billions of Current Dollars, Annualized*	*Billions of 1982 Dollars, Annualized*	*Annualized Percent Change (1982 Dollars)*	*Annualized Percent Change (Adjusted GSP)**	*Annualized Percent Change (1982 Dollars)*
First 1984	$41.457	$39.520	13.1%	10.8%	9.5%
Second 1984	42.059	39.845	3.3	10.0	4.9
Third 1984	43.485	41.194	13.5	12.9	2.3
Fourth 1984	43.880	41.475	2.7	3.4	1.5
First 1985	45.712	42.786	12.7	10.7	3.0
Second 1985	46.331	43.180	3.7	6.6	2.3
Third 1985	47.433	43.970	7.3	8.8	4.1
Fourth 1985	48.055	44.358	3.5	6.1	2.1
First 1986	49.913	45.740	12.5	11.5	3.7

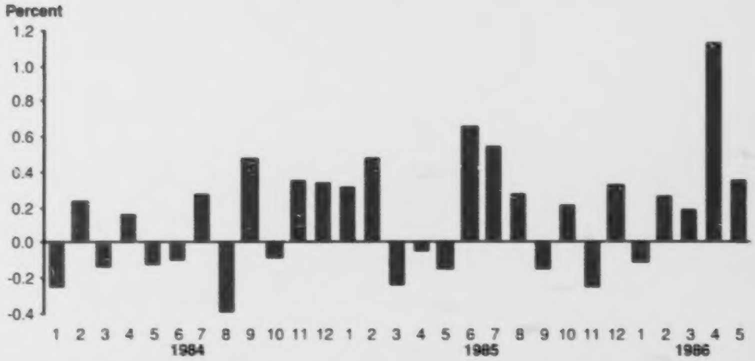
*The adjusted GSP is the annualized GSP in billions of 1982 dollars, minus the contributions of the agriculture and mining industries.

[r] Revised

Source: Center for Business Research, College of Business, Arizona State University; in cosponsorship with the ASU College of Business Dean's Council of 100.

Arizona Leading Index Climbs to Record High

FIGURE I
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS
MONTHLY CHANGE



Source: Center for Business Research, College of Business, Arizona State University

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution[+]			
	Jan.	*Feb.*	*Mar.*	*Apr.*
Delivery Time*	-.08	.03	.02	.01
Inventory Levels*	-.05	.09	.01	-.04
New Orders*	-.07	.06	-.04	-.04
Production*	-.06	-.03	-.02	.04
Employment*	-.04	-.03	-.01	.05
Residential Building Permits	-.32	-.29	.01	.33
Unemployment Insurance Claims	-.23	.16	-.16	.02
Average Workweek, Manufacturing	-.18	-.02	.00[r]	.18
Money Supply	-.09	.32	.45[r]	.65
Change in Sensitive Materials Prices	.01	-.02	-.07	-.03
OVERALL INDEX	-.11	.26	.19[r]	1.17

[r] Revised

[+] The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

*Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Center for Business Research, College of Business, Arizona State University.

After soaring in April, the Arizona Index of Leading Economic Indicators climbed further in May, the fourth consecutive monthly gain (see Figure I). May's 0.4 percent rise, which followed a huge 1.1 percent jump in April, pushed the index to a record 108.4.

Since 1983, the index has climbed for four consecutive months only one other time, during the winter of 1984-85. The cumulative gain during the last four months was the greatest since the initial recovery from the 1981-82 recession.

A large gain such as that recorded in April is typically registered only at the end of a recession. The only other increases of this magnitude occurred in August 1970, at the end of the 1969-70 recession; in March and May 1975, at the end of the 1974-75 recession; in July 1980, at the end of the 1980 recession; and in January and February 1983, at the end of the 1981-82 recession.

COMPONENTS

The diffusion index – the percentage of rising components – registered a solid 70 percent in April and 60 percent in May, the strongest consecutive months since late 1983. However, only two components – national money supply (M2) and residential building permits – accounted for nearly all of the index's increase during the two months.

April's money supply surge was the third largest ever, exceeded only in January and February 1983. Sizable increases both preceded and followed the April jump, in February, March and May (see Table I). Residential building permits soared in April, a reaction to the late February decline in mortgage interest rates. Similar building permit advances occurred in July 1985 and January 1986, each following periods of falling interest rates.

None of the other components experienced much of a net change in April and May. Average hours worked in the manufacturing industry rose moderately in April but lost most of that advance in May. The five components derived from a survey of Arizona purchasing managers fell in May, following a slight gain in April. Inventory levels declined in both months; production dropped sharply in May, following an advance in April.

OUTLOOK

Prompted by lower interest rates and deflation, the index has advanced during the last four months, indicating that a pickup in business activity is likely by late summer or early fall. The chance of a recession beginning before early 1987 is virtually nil.

Nationally, the leading index continued to gain, but the increase in May was smaller than those of the prior few months. So much of the index's strength has been related to the stock market and the money supply that growth in the national economy is unlikely to accelerate as much as indicated.

– Tom R. Rex
Research Manager

ARIZONA ECONOMIC INDICATORS

					Year-to-Date	
	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Value	Percent Change from Year Ago
GROSS STATE PRODUCT (In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	4th Qtr.	47.443	2.7	7.9	NA	NA
Arizona - 1982 Dollars	4th Qtr.	43.707	-0.2	5.2	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	2nd Qtr.	192.6	0.5	0.9	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	May	108.4	0.4	3.4	NA	NA
BUILDING PERMITS (Total Dollar Value in Thousands)						
Maricopa County	April	383,118	-3	1	1,431,457	1
Pima County	April	86,662	28	20	301,753	10
Balance of State	April	52,498	0	-32	201,349	-8
Arizona	April	522,278	0	0	1,934,559	1
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	April	5,371	20	26	17,221	-13
Pima County	April	1,222	67	2	3,639	-25
Balance of State	April	948	-33	-53	4,249	-27
Arizona	April	7,541	14	0	25,109	-18
HOME SALES						
Maricopa County - Number	May	4,151	-13	-1	21,901	5
Maricopa County - Median Price	May	76,600	0.8	6.4	75,650	5.4
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix - New Homes	1st Qtr.	89	11.3	14.1	NA	NA
Metropolitan Phoenix - Resale Homes	1st Qtr.	104	10.6	18.2	NA	NA
MORTGAGE INTEREST RATES (Conventional, 30-year, Fixed-rate)						
Maricopa County	June	10.6	6.0	-10.9	NA	NA
POPULATION ESTIMATES (In Thousands)						
Maricopa County	1st Qtr.	1,881	1.3	5.1	NA	NA
Arizona	1st Qtr.	3,343	1.5	4.4	NA	NA
ELECTRICAL POWER SALES (In Millions of Kilowatt Hours)						
Arizona	May	3,002.5	11.8	1.3	13,446.5	0.2

NA = Not Applicable

Source: Center for Business Research, College of Business, Arizona State University

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Quarterly Economic Forecast Update

Moderate Growth Likely Into 1987

Except for a brief period earlier this year when the outlook brightened, the basic economic forecast for moderate but erratic growth has not changed since late 1984. Although signs of improvement, which were absent during 1985, appeared early in 1986 and have persisted since then, economic growth has not yet accelerated. Therefore, many of the comments made in conjunction with the Center's 1985 forecasts remain appropriate. Two of the most relevant follow:

- "The recent inconsistency of economic growth coincides with a series of mixed signals from various economic indicators. It is important not to place too much significance on any single indicator, particularly on a monthly basis. Even the growth in the Gross National Product (GNP) has to be viewed with caution: the fluctuation of growth (since) 1984 is relatively mild compared to the erratic growth of earlier mature expansions; the growth in one quarter should not be interpreted as an indicator of the growth in future quarters." (April 1985 *Arizona Business*, p.4)
- "The absence of signs that economic growth will either improve or deteriorate into a recession . . . does not imply that the GNP of any given quarter will not decline, nor that it will (not) expand by more than 3 percent. Sharp swings in components of the GNP can occur as long as the economy's severe imbalances – such as the budget

See "Forecast," page 2

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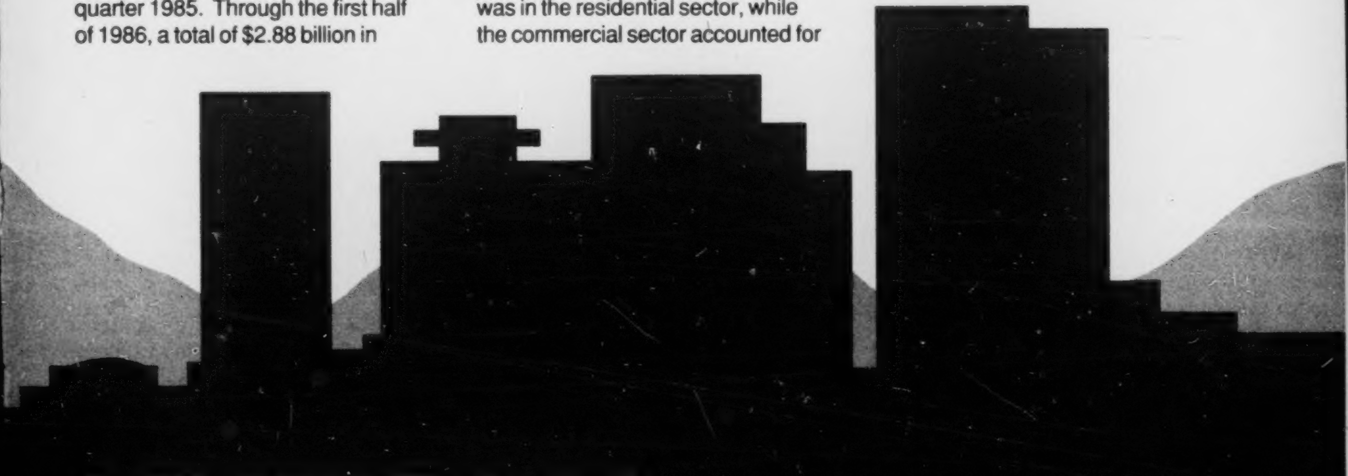
Second Quarter Construction Report

Activity Improves; Its Source Shifts

Led by the residential sector, the Arizona construction industry continued to improve during the second quarter. With 30,229 recorded permits, valued at $1.47 billion, construction activity was similar to the $1.41 billion recorded in the first quarter and $1.49 billion of second quarter 1985. Through the first half of 1986, a total of $2.88 billion in new construction was approved, comparable to the $2.87 billion for the first two quarters of 1985.

While the dollar values are comparable, the source of activity has changed during the last year. In the first half of 1985, 43 percent of the recorded dollar value ($1.22 billion) was in the residential sector, while the commercial sector accounted for 38 percent ($1.09 billion). For the same period in 1986, the residential sector represented 46 percent

See "Construction," page 6



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"Forecast," from page 1

and trade deficits – persist. Thus, an apparent improvement or deterioration in the economy, as measured by GNP, should be discounted unless sufficient corroborating evidence is provided." (October 1985 *Arizona Business*, p.6)

Earlier this year, such evidence appeared to be available. Industrial production had accelerated at a time when leading indicators were rising rapidly; and inflation, interest rates, and the dollar all were falling. The economic acceleration proved to be brief, but most of these indicators remain positive. Thus, two primary questions still have not been answered: Is the expected improvement yet to occur – simply with a longer lag than predicted? If so, will the gains be as great as forecast?

CURRENT ECONOMIC CYCLE

As explained in the citations above, the pessimism and handwringing emanating from some parties, primarily in response to the small second quarter GNP gain, are unjustified. Economic conditions remain reasonably strong, especially considering the age of the economic cycle. The revised 2.7 percent GNP gain during 1985 and the average 2.8 percent year-over-year advance during the first half of 1986 are not much below the long-term average.

In most prior cycles, the economy already would be in recession. Instead, it is now completing its fourth year of expansion. Overall, a long period of moderate growth probably is preferable to the typical boom-bust cycle.

The negative aspect of the current economic cycle is that performance has been temporally erratic and sectorally uneven. While many industries, such as housing and services, remain strong, other industries have experienced mild recessionary conditions. The high unemployment rate also is undesirable, but its origin is more structural than cyclical. A record proportion of the working-age population is employed.

In several ways, the current cycle is unusual, including the fact that forecasts issued two years earlier may be cited. The more-than-two-year length of the "growth recession" – a period of subpar, but still positive, growth – is unmatched. Most cycles include such a period of slow growth, but usually it is briefer, with growth even slower than that recently experienced. A growth recession, often followed by a recession, sometimes is succeeded by another stage of fast growth.

While the expansion has lasted nearly one year longer than average, the cyclical increase in the GNP has been less than in several prior expansions (see Figure I). Coupled with the declines experienced during two recessions between 1980 and 1982, expansion of the economy remains below its long-term trend.

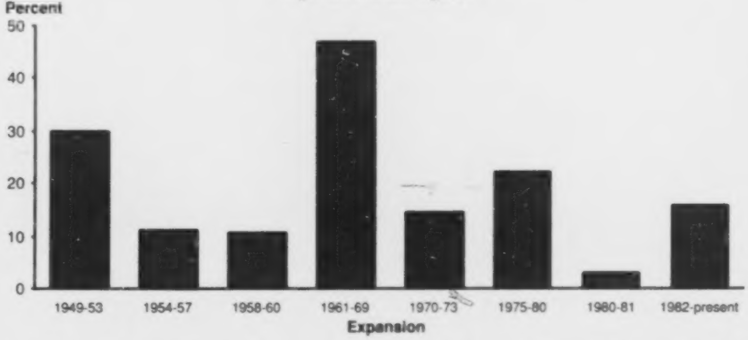
1986-87 NATIONAL FORECAST

Several factors have had, and will continue to have, a strong impact on economic performance. Oil prices have dropped sharply, helping to lower inflation and interest rates. Unfortunately, the detrimental impact on the domestic oil industry was greater than anticipated. Oil prices probably will fall no further and may rise modestly if OPEC holds to production constraints.

Consumer confidence and spending remain strong. While consumer debt continues to be a concern, a collapse in consumer spending is unlikely.

Depending on one's viewpoint, monetary policy has been either accommodative (four reductions in the discount rate during 1986) or tight

FIGURE I
GROWTH IN GROSS NATIONAL PRODUCT
By Economic Cycle



Source: Center for Business Research, College of Business, Arizona State University; from U.S. Department of Commerce data.

TABLE 1
1986-87 ECONOMIC FORECAST: UNITED STATES
(Annual Average Percent)

	Actual	Forecast Scenarios					
	Actual	Control		Optimistic		Pessimistic	
	1985	*1986*	*1987*	*1986*	*1987*	*1986*	*1987*
Real Gross National Product	2.7	2.7	3.0	3.0	3.8	2.6	2.0
Industrial Production	2.2	1.0	3.0	1.0	5.0	0.5	1.5
Housing Starts*	1.7	1.9	1.8	1.9	1.9	1.9	1.7
Unemployment Rate	7.1	7.1	6.9	7.0	6.5	7.1	7.1
Consumer Price Index	3.6	2.0	3.2	1.7	2.5	2.0	3.5
Three-Month Treasury Bill Rate	7.5	6.1	6.1	5.9	6.0	6.2	7.0

*Number in Millions

Source: Center for Business Research and Economic Outlook Center, College of Business, Arizona State University (real interest rates held steady or rose as inflation dropped sharply). Except in interest-rate-sensitive sectors such as housing, lower rates have had little impact.

Fiscal policy has not changed. No action has been taken to reduce the deficit, which has swelled because slow economic growth has produced lower tax revenues than predicted.

Indecision concerning tax revision, which affects various investment decisions, nearly has been resolved. The reaction to the package is hardly clear at this date (August 27), however. Predictions of the effect on the economy range from a slight, temporary dip in growth to a recession.

The dollar continues to fall against major currencies until it is now below the point that precipitated trade problems. However, since it has not declined against the currencies of Canada or many developing countries, the timing and magnitude of the impact on trade are far from certain.

Still at record levels, the trade deficit may be the single greatest problem facing the economy. While many sectors remain healthy, foreign competition continues to plague the production industries. The shift away from manufacturing, mining and agriculture has kept the economy growing at a near-average pace despite recessions in these industries, but faster growth and a reduction in unemployment cannot occur without their recovery. Widely varying opinions persist concerning the magnitude and timing of such a rally.

Control Forecast

The control scenario assumes a slight acceleration in economic activity but no significant change from the conditions of the last two years. This net effect is a result of conflicting developments.

On the positive side, the trade situation is likely to begin improving by 1987, which will boost industrial production (see Table 1). In addition, the domestic oil industry should stabilize or improve as oil prices firm or rise, removing one negative factor that impacted the economy during much of 1986.

The major negative stimulus, at least through 1987, will be the new tax package. Non-residential fixed investment is likely to slow even more than it would have otherwise, and other economic activity also may slow temporarily until the tax plan is fully implemented. In addition, the federal budget deficit remains a drag on the economy by holding interest rates high.

Other conditions probably will not diverge much from recent patterns. Inventories are not likely to be either substantially built or depleted. Consumer spending and home construction may slow, but not significantly. Monetary policy should remain steady.

Optimistic Scenario

The key to a much stronger economy in 1987 seems to be a further decline in oil prices, which would

TABLE 2
1986, 1987 ECONOMIC FORECASTS: ARIZONA

		Forecast Scenarios					
	Actual	**Control**		**Optimistic**		**Pessimistic**	
Gross State Product	*1985*	*1986*	*1987*	*1986*	*1987*	*1986*	*1987*
Millions of 1982 Dollars	43,825[1]	46,675	49,475	46,900	50,175	46,225	48,300
Percent Change	8.2	6.5	6.0	7.0	7.0	5.5	4.5
Personal Income							
Millions of Current Dollars	40,000[2]	43,125	46,450	43,475	47,250	42,600	44,950
Percent Change	10.8	7.8	7.7	8.7	8.7	6.5	5.5
Retail Sales							
Millions of Current Dollars	16,169	17,325	18,575	17,475	18,950	17,225	18,175
Percent Change	9.7	7.1	7.2	8.1	8.4	6.5	5.5
Unemployment Rate							
Percent	6.5	6.7	6.7	6.5	6.0	6.8	7.5
Wage and Salary Employment							
Number in Thousands	1,278	1,348	1,414	1,355	1,436	1,342	1,389
Percent Change	8.2	5.5	4.9	6.0	6.0	5.0	3.5
Population							
Number in Thousands	3,234[3]	3,380	3,525	3,380	3,535	3,380	3,510
Percent Change	4.5	4.5	4.3	4.5	4.6	4.5	3.8
New Single Family Housing Units Permitted							
Number	33,271	34,300	32,825	35,000	35,000	33,150	26,850
Percent Change	7.8	3.1	-4.3	5.2	0.0	-0.4	-19.0
New Multifamily Housing Units Permitted[4]							
Number	37,312	26,750	16,900	28,750	25,000	24,300	14,300
Percent Change	-22.0	-28.3	-36.8	-23.0	-13.0	-34.9	-41.2
Value of Building Permits							
Millions of Current Dollars	5,449	5,125	4,925	5,750	5,750	4,750	3,775
Percent Change	3.5	-5.9	-3.9	5.5	0.0	-12.8	-20.5

[1] Projected; preliminary estimate: $43,936
[2] Projected; preliminary estimate: $39,509
[3] Revised estimate
[4] Apartment complexes of three or more units

Source: Center for Business Research, College of Business, Arizona State University

cause additional downward pressure on inflation, interest rates and the dollar. Most sectors of the economy would benefit, particularly industrial production. In contrast to the initial shock wave that collapsing oil prices sent through the domestic oil industry, this scenario probably would not cause the industry to decline much further.

Pessimistic Scenario

Should the economy continue not to respond to lower inflation and interest rates and to the declining dollar, deterioration in general conditions could be prompted during 1987 by tax reform and flagging confidence that help will ever reach the production industries. The only result probably would be slower growth, as shown in Table 1; however, the more serious consequence – a mild, brief recession – is possible during 1987.

None of the above conditions is that of a classic recession. A more typical downturn could occur from a combination of rising oil prices and a surging money supply that would cause monetary policy to tighten. Rising inflation and interest rates could precipitate a slump, particularly if the government simultaneously cuts spending in an attempt to meet deficit reduction targets. Such a recession is unlikely prior to 1988.

1986-87 ARIZONA FORECAST

Each factor that is affecting national economic performance also is influencing local conditions. Arizona's economy felt the effects of the national growth recession, but the deceleration was gradual and never reached the magnitude that much of the nation experienced. Since the Arizona economy remained relatively strong, a noticeable rebound is unlikely except in certain sectors, such as manufacturing, in which growth nearly ceased.

Instead of steady growth, however, much of the data in Tables 2 and 3 suggest just the opposite: slowing economic activity in 1986 and 1987.

Several factors explain this seeming contradiction:

- Some weakness did not appear until late 1985 and lasted into early 1986. For example, manufacturing employment fell between October 1985 and February 1986.
- Because of the arithmetic of calculating an annual average, growth in 1985 was not as strong as indicated. Employment, for example, rose 8.2 percent on an annual average basis but only 6.5 percent between December 1984 and December 1985.
- Some 1985 growth was still too fast to be sustained, thus the inevitable moderation is reflected in 1986 and 1987. This is particularly true of multifamily housing.

Employment and Population

Record population gains continue in Arizona, and the extra-large net migration that is responsible probably results from troubles in competing Sunbelt states, such as Texas. This inflow of people accounts for the comparatively strong Arizona econ-

TABLE 3
1986, 1987 ECONOMIC FORECASTS: MARICOPA COUNTY

		Forecast Scenarios					
	Actual	Control		Optimistic		Pessimistic	
Consumer Price Index	*1985*	*1986*	*1987*	*1986*	*1987*	*1986*	*1987*
Percent Change	5.0	1.5	4.0	1.3	3.0	2.0	5.0
Retail Sales							
Millions of Current Dollars	10,830	11,550	12,375	11,675	12,675	11,525	12,225
Percent Change	11.2	6.6	7.1	7.8	8.6	6.4	6.1
Unemployment Rate							
Percent	5.1	5.3	5.3	5.1	4.7	5.6	6.2
Wage and Salary Employment							
Number in Thousands	840	888	932	892	947	884	915
Percent Change	9.1	5.7	5.0	6.2	6.2	5.2	3.5
Population							
Number in Thousands	1,814[1]	1,902	1,990	1,902	1,995	1,902	1,980
Percent Change	4.9	4.9	4.6	4.9	4.9	4.9	4.1
New Single Family Housing Units Permitted							
Number	23,143	24,000	22,000	24,700	24,700	22,550	18,000
Percent Change	11.4	3.7	-8.3	6.7	0.0	-2.6	-20.2
New Multifamily Housing Units Permitted[2]							
Number	27,271	19,800	12,000	21,000	18,000	17,500	10,000
Percent Change	-25.9	-27.4	-39.4	-23.0	-14.3	-35.8	-42.9
Value of Building Permits							
Millions of Current Dollars	4,013	3,750	3,450	4,200	4,200	3,450	2,600
Percent Change	5.3	-6.6	-8.0	4.7	0.0	-14.0	-24.6

[1] Revised estimate

[2] Apartment complexes of three or more units

Source: Center for Business Research, College of Business, Arizona State University

omy in 1985-86. Net migration is not expected to slacken during 1986-87.

After a tremendous surge of new jobs in 1983-84, the historical relationship between job creation and population gain has returned: approximately one job for every two new residents. Since the unemployment rate has fluctuated between 6.3 and 7.2 percent since early 1985, this relationship appears to be stable. The unemployment rate, therefore, is likely to continue fluctuating but is not expected to rise or fall substantially through 1987.

Employment gains gradually have decelerated since early 1985. Slightly further moderation is likely through 1986-87. While growth in all industries has slowed, which always occurs as an economic expansion ages, certain industries have experienced, or will experience, the deceleration more than others.

Construction employment has flattened on a seasonally adjusted basis after growing rapidly, especially during 1984. It is likely to begin declining slightly in 1987 as commercial construction falls further. Manufacturing employment in June was at the same level as in June 1985, a product of the weak semiconductor market and a strong dollar. Gains in manufacturing employment resumed in July 1986, however.

Employment growth remains strongest in the finance, insurance and real estate sector. Solid advances continue to be posted in services, but trade employment has been relatively weak during 1986.

GSP and Personal Income

Because of the vigorous employment advances during 1985, personal income estimates are likely to be revised up, pushing the nominal growth rate from a preliminary 9.5 percent to nearly 11 percent. As Figure II illustrates, the 1985 employment gain exceeded the preliminary increase in inflation-adjusted personal income by the greatest amount on record, far more than any amount during the last 10 years.

The personal income growth rate gradually has slipped from its early 1984 peak and probably will stabilize at a slightly lower level than the latest year-over-year estimate of 8.5 percent. Lower inflation is part of the reason for the large drop in the growth rate between 1985 and 1986.

The Gross State Product is heavily dependent on personal income; thus, 1985 estimates of GSP are also likely to be further revised. After three successive years of rapid growth, GSP expansion during 1986-87 should be closer to its long-term average of 5.7 percent.

Inflation and Retail Sales

The inflation rate has fallen sharply in the Phoenix metropolitan area, but the improvement is expected to be temporary as oil prices firm and as a weaker dollar allows prices of goods to again rise. Retail sales are expected to post a smaller gain in 1986 than anticipated, but the lower numbers simply result from lower inflation.

Real Estate

During the recovery from the last recession, commercial construction, particularly of office buildings and apartments, led the way. In 1985, these sectors began to weaken, while residential construction strengthened. This pattern, a complete reversal from prior economic cycles, is likely to persist during 1986-87.

Residential construction currently is experiencing its fourth consecutive solid year; an unheard-of fifth-successive good year seems likely during 1987. While high interest rates prevented a boom during 1983-84, falling rates now are prolonging a strong market.

In contrast, multifamily construction soared far past prior records during 1983-84. Currently, this sector is on a downhill course, though it has not dropped as much as expected. After accounting for more than one-half of all new housing units between 1983 and 1985, apartments will slide to the traditional one-third of total housing units by early 1987. High vacancy rates, demographic changes, and new tax laws will continue to limit this sector.

For the same reasons, other commercial sectors also should decline throughout 1986-87. The result likely will be a lower dollar value of building permits in both 1986 and 1987.

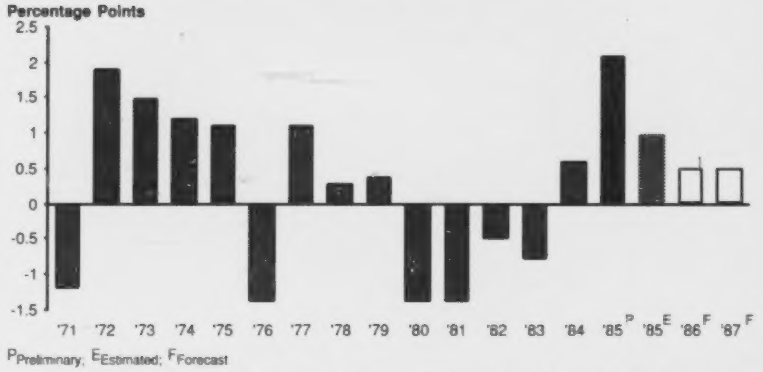
Alternative Scenarios

Should the national economy improve as suggested in the optimistic scenario, the state's economy is not likely to feel the effect as much, since its growth has been unusually strong vis-a-vis the national economy. The manufacturing industry in particular probably would benefit. Overall growth may not accelerate much, however, as improved conditions elsewhere may reduce the level of net in-migration to Arizona.

If conditions were to worsen nationally, but not to the extent of a classic recession, Arizona's growth probably would slow but not so much as that of the national economy since migration should persist. However, a more severe recession could sharply brake Arizona's growth machine; this is unlikely prior to 1988.

– Tom R. Rex
Research Manager

FIGURE II
DIFFERENCE IN ARIZONA GROWTH RATES
EMPLOYMENT MINUS REAL PERSONAL INCOME



Source: Center for Business Research, College of Business, Arizona State University

"Construction," from page 1

($1.33 billion) of the total dollar amount, and the commercial sector constituted 34 percent ($987 million).

The accompanying tables reveal strong levels of activity in the single family, multifamily, and retail sectors, while the industrial and office building sectors recorded declines. For the first two quarters of 1986, a total of $2.12 billion in construction activity was recorded in Maricopa County, in contrast to $2.11 billion for the same period of 1985. Residential activity improved from 41 to 44 percent ($880 to $941 million) of total recorded activity for the first half of 1986, while the commercial sector declined from 39 to 35 percent ($824 to $740 million).

Pima County posted a 15 percent increase in construction permit value during the first half of 1986 over the first half of 1985 ($405 to $467 million). The improvement was evident in both the residential sector ($149 to $187 million) and in the commercial sector ($171 to $186 million). As in Maricopa County, these figures represent an increase in total recorded activity for the residential sector (36 to 40 percent) and a decline for the commercial sector (42 to 39 percent).

Based on total dollar value of issued permits, Table 4 shows the 12 leading reporting units, which accounted for 89 percent ($1.32 billion) of all Arizona construction activity during second quarter 1986.

SECTORAL ACTIVITY

Residential

The single family sector finally appeared to be responding to lower interest rates. With 7,565 permits issued during the second quarter, this sector had its best quarter in Maricopa County since second quarter 1979, when 8,227 permits were recorded. The year-to-date total of 13,612 permits reflected an 8 percent improvement over the 12,609 permits for the first half of 1985. In comparison with first quarter 1986, areas showing improvement included Chandler (663 to 819 permits), Gilbert (137 to 264 permits), Glendale (485 to 737 permits) and Peoria (423 to 758 permits).

Led by 1,172 permitted homes in the unincorporated area, Pima County had its best quarter (1,631 permits) since third quarter 1980 (1,726 permits). Single family activity gained 22 percent over the year-to-date totals for 1985 and 1986 (2,164 to 2,633 permits). The average single family permit value for the second quarter was $68,080, while it was $66,189 in Maricopa County.

Although the metropolitan counties experienced strong levels of single family activity, this sector declined in the other counties, from 1,924 permits for second quarter 1985 to 1,459 permits one year later; this total was slightly more than the 1,355 permits of the first quarter. Primary areas of single family development were unincorporated Coconino County (138 permits), unincorporated Navajo County (104 permits), Lake Havasu City (79 permits), Flagstaff (74 permits), and Prescott (74 permits).

While new home construction was improving, remodeling activity remained fairly stable, with a year-to-date total of 6,938 permits ($48 million), in contrast to 6,397 permits ($52 million) for the first half of 1985. In Maricopa County, the value of permits for first half 1985 remodeling activity was $27.9 million (3,415 permits), which remained virtually unchanged for 1986 (3,362 permits, valued at $27.1 million).

Commercial

For several years, the commercial sector, in large part, led the growth in construction activity. However, with 962 permits ($332 million) issued during the second quarter, this sector continued its decline of the last few quarters. During second quarter 1985, commercial activity comprised 913 permits ($432 million), with 956 permits ($409 million) issued during first quarter 1986.

The decline in dollar value, while the number of permits has remained

TABLE 1
KEY SECTOR CONSTRUCTION ACTIVITY
(Second Quarter 1986, First Quarter 1986, and Second Quarter 1985)

			COMMERCIAL							
	SINGLE FAMILY		APARTMENTS[a]		OFFICE BUILDINGS[b]		RETAIL STORES[c]		INDUSTRIAL	
	Number of Permits	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*
Maricopa County										
Second Quarter 1986 ...	7,565	500,722,396	381	169,921,647	87	53,292,279	414	86,646,380	107	37,291,378
First Quarter 1986	6,057	399,130,852	335	135,721,459	87	81,706,773	257	69,653,584	77	50,455,191
Second Quarter 1985 ...	6,332	424,502,020	370	153,852,226	128	167,890,636	258	80,417,322	133	35,206,401
Pima County										
Second Quarter 1986 ...	1,631	111,039,849	57	48,568,040	25	8,699,410	36	12,452,378	8	3,635,996
First Quarter 1986	1,002	64,258,025	58	20,584,545	39	40,970,882	25	13,405,343	9	1,087,500
Second Quarter 1985 ...	1,145	71,052,603	32	38,431,650	30	11,068,023	21	4,259,720	11	19,487,420
Rest of Arizona										
Second Quarter 1986 ...	1,459	76,136,192	9	1,693,907	46	5,791,482	73	9,386,329	19	1,088,360
First Quarter 1986	1,355	68,746,450	54	17,673,242	35	2,370,188	91	6,634,873	26	2,503,567
Second Quarter 1985 ...	1,924	84,479,812	62	26,817,026	46	3,648,513	94	6,717,111	47	18,490,020
Arizona Total										
Second Quarter 1986 ...	10,655	687,898,437	443	220,183,594	158	67,783,171	523	108,485,087	134	42,015,734
First Quarter 1986	8,414	532,135,327	447	173,979,246	161	125,047,843	348	89,693,800	112	54,046,258
Second Quarter 1985 ...	9,401	580,034,435	464	219,100,902	204	182,607,172	373	91,394,153	191	73,183,841

[a] Five or more housing units

[b] Office, bank, medical and professional buildings

[c] Shopping centers and other mercantile buildings

Source: Center for Business Research, College of Business, Arizona State University

fairly stable, is due to a smaller number of permits for large projects. For example, 87 office building permits ($53 million) were issued during second quarter 1986, for an average permit value of $612,555; the first quarter's 87 permits ($82 million) averaged $939,158 in value. This decline is even more appreciable from the second quarter 1985 total of 128 permits, worth $168 million (average permit value of $1.3 million). The greatest decline in commercial activity occurred in hotel/motel permits, which moved from a value of $95 million in the first quarter to the second quarter level of $5 million.

The multifamily sector arrested a several-quarter decline, with the authorization of 6,413 units ($170 million), a 7 percent increase over second quarter 1985's 5,955 units ($154 million). Despite the improvement, the year-to-date total of 11,321 permitted units is less than the 14,365 authorized units for the first half of 1985. More than 80 percent of the permitted units were in the cities of Phoenix (1,823 units), Glendale (1,792 units), and Mesa (1,582 units).

The retail sector continued to follow the expected path of expansion, with 414 permits ($87 million). While retail activity has improved, the average permit value has declined from the $311,695 reported for second quarter 1985 to $209,291 one year later. This drop is due mainly to the construction of smaller centers and the completion of existing centers.

Commercial activity in Pima County followed a similar pattern, decreasing from $109 million (137 permits) in the first quarter to $78 million (132 permits). The decline was most evident in the office building sector, which dropped from $41 million to $8.7 million. Further, the hotel/motel sector declined from $28 million to $6.7 million. The multifamily sector, however, increased from $21 million (854 permitted units) to $49 million (1,732 authorized units), with 1,076 units permitted in Tucson. As presented in Table 1, retail activity remained fairly stable for the first two quarters of 1986.

Multifamily activity declined appreciably, from 1,015 authorized units in the first quarter to 80 permitted units, 58 of which were recorded in Prescott. Office building activity improved from $2.4 million (35 permits) to a second quarter total of $5.8 million (46 permits), with the average permit value increasing from $67,720 to $125,900. Retail activity increased from $6.6 million in the first quarter to $9.4 million, while the number of permits declined from 91 to 73. The average retail permit value rose from $72,910 to $128,580.

Industrial

In 1985, the industrial sector was driven by the construction of large, single-user projects. Since this source of activity appears to have stopped, industrial activity in Maricopa County has appreciably declined, from 284 permits ($126 million) in the first half of 1985 to 184 permits ($88 million) for the same period in 1986. Tempe led the second quarter totals with 57 permits, worth $21 million, followed by Phoenix with 24 permits ($5.8 million).

With 7 permits ($3.3 million) issued in unincorporated Pima County, industrial activity improved over the first quarter (9 permits at $1.1 million) but remained well below the $19.5 million (11 permits) recorded one year earlier. In the non-metropolitan counties, industrial development has been slow for the last few quarters. It continued to decline, from $2.5 million (26 permits) in the first quarter, to $1.1 million (19 permits), which is well below the $18.5 million (47 permits) recorded for second quarter 1985. During second quarter 1986, the largest permit was for $163,000 in unincorporated Navajo County, followed by one for $143,000 in unincorporated Santa Cruz County.

TABLE 2
ARIZONA HOUSING UNITS AUTHORIZED
Second Quarter 1986

	One Family	*Mobile Homes*	*Duplex*	*3-4 Family*	*5 or More*	*Total*
APACHE COUNTY	37	10	0	0	0	47
Percent Change, Previous Year	2	-23	–	–	0	-4
Percent Change, Previous Qtr.	208	25	–	–	0	134
COCHISE COUNTY	69	45	8	4	0	126
Percent Change, Previous Year	-25	-43	–	–	–	-32
Percent Change, Previous Qtr.	-51	-62	–	-83	–	-81
COCONINO COUNTY	218	125	6	0	16	365
Percent Change, Previous Year	0	-21	-50	–	-86	-53
Percent Change, Previous Qtr.	48	92	-50	–	-80	18
GILA COUNTY	81	65	2	3	0	151
Percent Change, Previous Year	-33	-13	-50	-25	–	-36
Percent Change, Previous Qtr.	56	18	–	–	0	41
GRAHAM COUNTY	19	56	0	0	0	75
Percent Change, Previous Year	5	64	0	0	0	44
Percent Change, Previous Qtr.	46	27	0	0	0	31
GREENLEE COUNTY	1	0	0	0	0	1
Percent Change, Previous Year	–	0	0	0	0	–
Percent Change, Previous Qtr.	0	0	0	0	0	0
LA PAZ COUNTY	0	0	0	0	0	0
Percent Change, Previous Year	–	–	–	–	–	–
Percent Change, Previous Qtr.	–	–	–	–	–	–
MARICOPA COUNTY	7,565	383	140	160	6,413	14,661
Percent Change, Previous Year	19	-18	-15	-52	7	10
Percent Change, Previous Qtr.	24	-13	55	-54	30	23
MOHAVE COUNTY	191	243	2	4	0	440
Percent Change, Previous Year	-49	-40	0	-86	–	-51
Percent Change, Previous Qtr.	-24	-31	0	-50	0	-28
NAVAJO COUNTY	139	30	0	0	0	169
Percent Change, Previous Year	-58	-62	–	–	–	-59
Percent Change, Previous Qtr.	104	15	–	–	–	79
PIMA COUNTY	1,631	518	18	17	1,732	3,916
Percent Change, Previous Year	42	-10	-73	-68	21	19
Percent Change, Previous Qtr.	62	0	-47	54	102	62
PINAL COUNTY	162	220	8	4	0	394
Percent Change, Previous Year	27	2	100	-79	–	-44
Percent Change, Previous Qtr.	30	-19	100	-59	–	-16
SANTA CRUZ COUNTY	17	4	16	0	0	37
Percent Change, Previous Year	-39	-81	–	–	–	-25
Percent Change, Previous Qtr.	-45	-90	–	–	–	-40
YAVAPAI COUNTY	432	188	28	29	64	741
Percent Change, Previous Year	6	-12	16	-32	-53	-10
Percent Change, Previous Qtr.	25	1	133	-29	-28	10
YUMA COUNTY	94	113	0	0	0	207
Percent Change, Previous Year	-28	-19	–	–	–	-55
Percent Change, Previous Qtr.	-23	-37	–	–	–	-66
TOTAL, ARIZONA	10,656	2,000	228	221	8,225	21,330
Percent Change, Previous Year	13	-20	-18	-64	-8	-2
Percent Change, Previous Qtr.	28	-21	44	-50	23	16

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Center for Business Research, College of Business, Arizona State University

TABLE 3
ARIZONA BUILDING PERMITS
Second Quarter 1986

	Residential*		Commercial		Industrial		Other		Total	
	Number of Permits	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*
APACHE COUNTY	69	2,180,125	7	253,000	0	0	6	128,494	82	2,561,619
Percent Change, Previous Year	7	28	133	1,965	0	0	-14	501	10	48
Percent Change, Previous Qtr.	165	155	133	532	0	0	0	-89	134	21
COCHISE COUNTY	273	4,998,694	16	1,974,653	2	27,250	168	1,524,140	459	8,524,737
Percent Change, Previous Year	4	-16	-19	-78	100	-8	-57	-69	-32	-57
Percent Change, Previous Qtr.	-34	-49	-67	-78	-75	-96	-5	-30	-29	-61
COCONINO COUNTY	522	15,714,464	16	5,534,814	2	68,392	144	6,620,250	684	27,937,920
Percent Change, Previous Year	-9	-1	-56	-22	-71	-75	0	418	-10	13
Percent Change, Previous Qtr.	69	55	-35	99	-66	-80	45	537	56	95
GILA COUNTY	270	5,865,957	11	589,922	3	44,360	46	626,308	330	7,126,547
Percent Change, Previous Year	-14	-13	-35	-57	-62	-87	-20	-60	-17	-29
Percent Change, Previous Qtr.	59	55	37	-14	50	-3	53	195	57	51
GRAHAM COUNTY	122	2,035,831	5	153,400	0	0	16	36,645	143	2,225,876
Percent Change, Previous Year	9	48	-58	-6	0	0	-46	-64	-6	35
Percent Change, Previous Qtr.	41	39	0	841	0	0	-23	-98	27	-53
GREENLEE COUNTY	4	22,300	0	0	0	0	1	32,000	5	54,300
Percent Change, Previous Year	300	791	0	0	0	0	–	–	400	2,071
Percent Change, Previous Qtr.	100	345	0	0	0	0	–	–	150	985
LA PAZ COUNTY	12	28,620	1	43,000	0	0	3	11,300	16	82,920
Percent Change, Previous Year	-80	-96	-79	-70	–	–	-95	-98	-88	-95
Percent Change, Previous Qtr.	-96	-98	-86	-56	–	–	-93	-95	-95	-96
MARICOPA COUNTY	9,864	521,123,209	962	331,849,029	107	37,291,378	8,059	176,715,627	18,992	1,066,979,243
Percent Change, Previous Year	10	16	5	-23	-19	5	0	5	5	-1
Percent Change, Previous Qtr.	14	23	0	-18	38	-26	8	5	11	1
MOHAVE COUNTY	962	14,036,869	26	2,904,811	4	284,154	430	1,856,952	1,422	19,082,786
Percent Change, Previous Year	-9	-19	-84	-72	-19	2	-31	-17	-23	-37
Percent Change, Previous Qtr.	-2	-20	0	103	33	-49	-10	-7	-5	-12
NAVAJO COUNTY	317	7,074,019	18	625,482	2	295,620	78	820,325	415	8,815,446
Percent Change, Previous Year	-44	-40	38	58	0	468	-24	-4	-40	-32
Percent Change, Previous Qtr.	79	93	157	94	-33	254	62	108	76	98
PIMA COUNTY	2,954	116,713,476	132	78,236,127	8	3,635,996	1,874	54,201,800	4,968	252,787,399
Percent Change, Previous Year	15	39	28	17	-27	-81	-3	61	7	24
Percent Change, Previous Qtr.	17	66	-3	-28	-11	234	17	54	16	17
PINAL COUNTY	499	10,690,341	16	2,234,297	0	0	304	3,092,228	819	16,016,866
Percent Change, Previous Year	8	34	-50	-73	–	–	25	91	9	-52
Percent Change, Previous Qtr.	-2	17	-19	-36	–	–	8	19	0	2
SANTA CRUZ COUNTY	37	1,576,880	2	380,600	1	143,000	12	316,287	52	2,416,767
Percent Change, Previous Year	-28	6	–	–	–	–	139	2,121	-8	61
Percent Change, Previous Qtr.	-55	9	100	–	–	–	300	297	-40	58
YAVAPAI COUNTY	882	31,527,006	46	5,031,087	3	152,000	437	2,865,659	1,368	39,575,752
Percent Change, Previous Year	8	11	-4	-47	-39	-76	53	19	18	-3
Percent Change, Previous Qtr.	24	42	-11	-8	–	–	100	23	40	31
YUMA COUNTY	316	9,063,362	20	5,102,896	2	73,584	159	2,386,390	497	16,626,232
Percent Change, Previous Year	-18	-14	-61	-9	-79	-94	14	43	-15	-13
Percent Change, Previous Qtr.	-23	-25	-41	-50	0	-63	-14	6	-21	-33
TOTAL, ARIZONA	17,103	742,651,153	1,278	434,913,118	134	42,015,734	11,737	251,234,405	30,252	1,470,814,410
Percent Change, Previous Year	5	15	-9	-21	-29	-42	-2	14	1	-1
Percent Change, Previous Qtr.	11	26	-3	-21	19	-22	10	13	10	4

*Includes mobile homes

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Center for Business Research, College of Business, Arizona State University

Other

New educational facilities led this sector with 65 permits, valued at $57 million. During the first half of 1986, a total of 114 permits ($93 million) have been issued, in contrast to 68 permits ($65 million) in the first half of 1985. Areas of activity during the second quarter included unincorporated Coconino County (1 permit at $4.8 million), Chandler (13 permits at $10 million), Glendale (2 permits at $5.9 million), Mesa (5 permits at $14 million) and Tucson (6 permits at $4.7 million).

With 10 permits, valued at $20 million, for new health care facilities, this sector had a year-to-date total of $47 million, compared to only $25 million for the first half of 1985. Most of the second quarter activity occurred in three cities in Maricopa County: Mesa (1 permit at $9.8 million), Scottsdale (1 permit at $6 million), and Phoenix (3 permits at $4.9 million).

LOOKING AHEAD

Construction activity for the first half of 1986 was very similar to that for the same period of 1985. For several years, new project development has slowed during the last part of the year. For example, in 1985, first-half permits totaled $2.87 billion in value, but the second half total was $2.57 billion, while the corresponding totals for 1984 were $2.8 billion and $2.4 billion. If economic conditions continue to support growth, 1986 activity should end at a level comparable to that of 1985 ($5.5 billion for the state and $4 billion for Maricopa County).

The fundamental difference between this year and previous years in this growth cycle is the absence of large-scale office building and industrial projects. This condition could be the primary force leading to lower construction activity for the remainder of the year. Growth in the multifamily sector was somewhat unexpected, and this sector should decline over the rest of the year due to uncertain market potential. Signs of weakness in the retail sector are increasing, which could lead to somewhat lower levels of activity.

TABLE 4
REPORTING UNITS WITH GREATEST TOTAL VALUE OF BUILDING PERMITS
Second Quarter 1986

Reporting Unit	Value *(in millions)*
Phoenix	$298.9
Mesa	185.4
Unincorporated Pima County	138.6
Scottsdale	134.6
Glendale	113.0
Tucson	111.3
Unincorporated Maricopa County	97.1
Chandler	81.3
Tempe	80.1
Peoria	31.9
Gilbert	28.6
Unincorporated Yavapai County	24.3

Source: Center for Business Research, College of Business, Arizona State University.

The main force in maintaining the current level of construction activity is the single family sector. While construction activity has increased, sales activity has yet to demonstrate a corresponding level of improvement. Hence, if the current construction pattern is to be maintained, new home buying will have to become much stronger over the next few months. Because interest rates have continued to decline and housing prices have remained fairly stable, the affordability problem has diminished. Thus, the main question becomes whether the consumer has the economic confidence and personal desire to buy a new home. If the answer is yes, the single family market will continue to grow, and the construction industry will remain strong. If the answer is no, the single sector will decline and, along with it, total construction activity – until another sector can provide the needed stimulation.

– Jay Q. Butler

Dr. Butler is Associate Professor of Real Estate and Director of the Arizona Real Estate Center in the ASU College of Business.

Housing Affordability Reaches Highest Level of '80s

Growth of the affordability indexes for new and resale homes slowed during second quarter 1986, compared to the large jumps experienced during the first quarter (see Table 1). Still, both indexes reached their highest levels since the Metropolitan Phoenix Housing Affordability Indexes began in 1981. The index for resale homes rose to 105, while the index for new homes climbed to 92.

An index at or above 100 indicates that a median-income household is able to qualify, with a 15 percent downpayment, for a median-priced home that has a fixed-rate, conventional, 30-year mortgage. During second quarter 1986, a median-income household could afford an $81,175 home – more than the median-priced resale home, $77,150, but less than the median-priced new home, $87,950.

NEW HOMES

During the second quarter, the median sales price of a new home fell for the first time since fourth quarter 1984, to $87,950. Mortgage interest rates also declined, causing the monthly mortgage payment on a median-priced new home to fall for the fourth consecutive quarter, from $840 to $820.

The index for new homes since 1982 has stayed below the index for resale homes because new homes are typically more expensive than resale homes and, therefore, less affordable. In first quarter 1983, at the beginning of the economic recovery, only $950 separated the median prices of new and resale homes. In second quarter 1986, new homes were priced $10,800 higher than resale homes.

RESALE HOMES

The affordability index for resale homes also experienced slow growth during second quarter 1986, rising only one percentage point from the previous quarter, after jumping 10 percentage points during first quarter 1986.

The monthly mortgage payment on a median-priced resale home rose to $720 from $710. The decline in the effective mortgage interest rate from 11.0 to 10.7 percent did not offset the 2.9 percent increase in the median sales price of a resale home. However, household incomes rose enough to absorb the increase in mortgage costs.

OUTLOOK

Interest rates have a large impact on the affordability indexes. If interest rates continue to fall as expected, they may offset continued moderate increases in the median sales prices of new and resale homes, allowing further index gains.

– Jacqueline Fifield
Research Analyst

TABLE 1
HOUSING AFFORDABILITY INDEXES
Metropolitan Phoenix

Quarter	Median Sales Price	Interest Rate	Monthly Housing Payment	Median Gross Monthly Income	Affordability Index
Resale					
2nd 1985	72,500	13.4	820	2,560	87
3rd 1985	75,000	12.6	800	2,580	90
4th 1985	74,650	12.3	790	2,620	94
1st 1986	75,000	11.0	710	2,660	104
2nd 1986	77,150	10.7	720	2,690	105
New					
2nd 1985	81,150	13.4	920	2,560	78
3rd 1985	83,575	12.6	900	2,590	81
4th 1985	86,875	12.3	910	2,620	80
1st 1986	88,197	11.0	840	2,660	89
2nd 1986	87,950	10.7	820	2,690	92

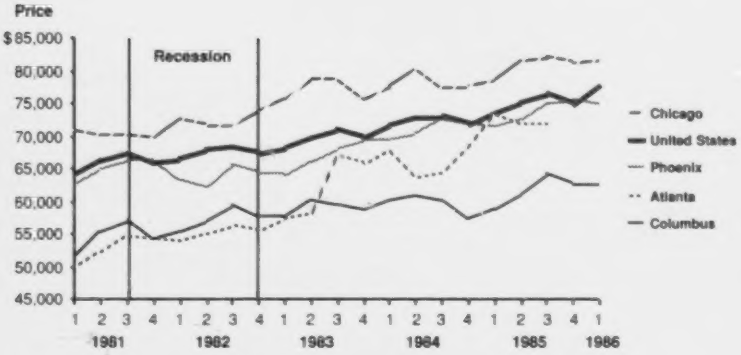
Source: Center for Business Research and the Arizona Real Estate Center, College of Business, Arizona State University. Interest rates are from the Federal Home Loan Bank Board *News*, and income figures are derived from the Annual Buying Survey in *Sales and Marketing Management*.

Home Price Explosion Limited to a Few Big Cities

Housing prices in New York and Boston have more than doubled during the current economic expansion, making homes there among the most expensive in the nation. Housing prices in the Phoenix area continue to match the national price level, with gains since late 1982 close to the national average.

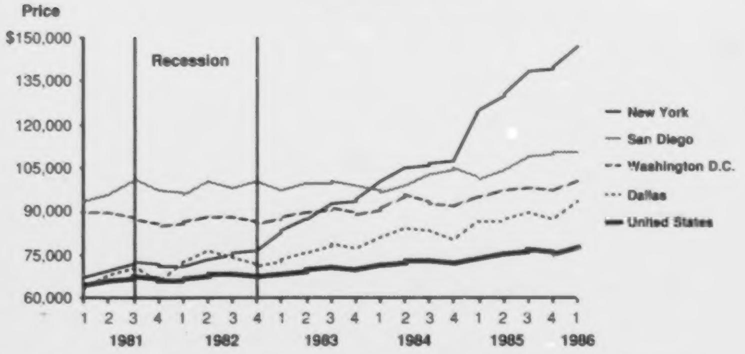
Figures I and II chart the behavior of housing prices for eight cities and the nation as a whole from first quarter 1981 to first quarter 1986 – a period marked by recession and subsequent recovery. Data points in the figures represent the median sales prices of existing single family homes, as reported by the National Association of Realtors. For the nation as a whole, prices ranged from a low of $64,300 in first quarter 1981 to a high of $78,100 in first quarter 1986. The comparable numbers for Phoenix area homes were $62,800 and $75,000, respectively.

FIGURE I
MEDIAN HOUSING PRICES
Comparison by Area



Source: Economic Outlook Center, College of Business, Arizona State University

FIGURE II
MEDIAN HOUSING PRICES
Comparison by Area



Source: Economic Outlook Center, College of Business, Arizona State University

During the expansion after the 1981-82 recession, most metropolitan areas, including Phoenix, sustained 15 to 20 percent inflation in the median price of existing single family homes. Outstanding exceptions, in addition to New York and Boston, include Atlanta's 45 percent jump and Dallas's 43 percent advance. At 12 percent, San Diego registered the lowest rate of increase.

While prices in all cities responded to the downside of the business cycle, some cities showed much greater sensitivity to the 1981-82 recession. The figures indicate that during the business cycle downturn from July 1981 to November 1982, housing prices either paused in their ascent or were slightly depressed in San Diego, New York, Atlanta, Chicago and Washington, D.C. In contrast, housing prices in Columbus, Dallas and Phoenix experienced moderate depression, though some of the drop resulted from a decrease in size of the typical home sold. In Phoenix, median home prices plummeted 6 percent, dropping from a high of $66,400 to $62,300. The recession price represented only 91 percent of the U.S. median housing price.

The figures also indicate that during recessions, housing prices are a leading indicator of future business expansion. For example, the upturn in housing prices nationwide during the 1981-82 recession took place three to six months in advance of the economy's recovery in November 1982. This lead relationship is caused by the stimulative effect that lower interest rates have on housing prices during a recession.

– Jim Huyghebaert
Senior Economist
Economic Outlook Center

Home Prices in Phoenix and Tucson Near National Average

Home prices in the Phoenix and Tucson metropolitan areas are near national averages, according to a review of several home price studies. The typical price per square foot in Phoenix and Tucson is $50 – a total price of $75,000 for a 1,500-square-foot home, for example – though prices vary by neighborhood. New home prices are slightly higher.

TABLE 1
TYPICAL PRICE OF A 1,500-SQUARE-FOOT HOME*

San Francisco	$150,000+	New Orleans	$75,000
Honolulu	150,000	St. Louis	75,000
San Jose	135,000	Portland	75,000
New York City	135,000	Salt Lake City	75,000
Boston	135,000	Las Vegas	75,000
Orange County, CA	130,000	Albuquerque	75,000
Los Angeles	130,000	Pittsburgh	70,000
San Diego	115,000	Houston	70,000
Washington, D.C.	100,000	Indianapolis	70,000
Dallas	90,000	Tampa	70,000
Denver	90,000	Detroit	70,000
Philadelphia	85,000	Cleveland	70,000
Chicago	85,000	Colorado Springs	70,000
Seattle	85,000	Columbus	65,000
Phoenix	75,000	El Paso	65,000
Tucson	75,000	Buffalo	60,000
Miami	75,000	Louisville	60,000
Atlanta	75,000	Kansas City	60,000
Baltimore	75,000		

*Value shown is a composite derived from information from the following sources: National Association of Realtors, Better Homes and Gardens Real Estate Services, Coldwell Banker, American Chamber of Commerce Researchers Association, Century 21 Real Estate Corp.

Source: Center for Business Research, College of Business, Arizona State University

PRICE COMPARISONS

The most expensive housing is located near the two coasts. The price of a 1,500-square-foot home exceeds $130,000 in Boston and in the San Francisco Bay, Los Angeles-Orange County, and New York City areas. The lowest home prices within large metropolitan areas are found in the Mideast and Midwest, including prices of $60,000 in Louisville, Kansas City and Buffalo (Table I).

Realtor Surveys

Home price information generally is derived from one of two sources: a sample of sales or an estimate made by realtors and brokers. Since realtor surveys include various assumptions regarding the size of house, comparisons are best made using price per square foot.

A study by Coldwell Banker, for example, produced a Phoenix home price of $98,000, while a study by Better Homes and Gardens yielded a price of $80,000. The difference in size of home assumed by each study – 2,000 square feet in the former and 1,600 square feet in the latter – accounted for nearly all of the variation in price.

Two other studies also placed the price per square foot in the Phoenix area within the range of $49 to $53 for resale homes, up to $56 for new homes. A survey by the American Chamber of Commerce Researchers Association priced an 1,800-square-foot home, while Century 21 Real Estate Corp. used a 1,400-to-1,600-square-foot residence.

For most metropolitan areas, square-foot prices coincide reasonably well from study to study. Wide discrepancies sometimes occur, however – for example, square-foot price estimates range from $51 to $85 in Hartford. Thus, the consensus value of several studies probably is most accurate.

Samples of Homes Sold

The Center's own data, based on all existing home sales recorded in Maricopa County, verified the estimates from realtor surveys. Moderately sized homes (between 1,300 and 2,100 square feet) that sold during the first five months of 1986 had a median price per square foot between $49 and $50. The median price per square foot is higher for both larger and smaller homes.

Another source for the median price of existing single family homes is the National Association of Realtors (NAR). Their first quarter value, $76,200, was slightly higher than that published by the Center, $75,000. (Price per square foot is not available from the NAR). The NAR value is slightly higher because of their reliance on Board of Realtors data; less expensive homes more frequently are sold without the service of a realtor.

The Federal Home Loan Bank Board (FHLBB) provides an average – not median – price measure for Phoenix from a sample of homes purchased with conventional mortgage financing. Because a few very expensive homes can greatly raise the average price and because homes purchased with conventional loans are more expensive than other homes, the average price reported for Phoenix by the FHLBB is nearly double the median price reported by the Center.

– Tom R. Rex
Research Manager

Second Quarter Home Sales

Record High Belies Seasonally-Adjusted Decline

Metropolitan Phoenix home sales during the second quarter reached a record 15,506, a 20 percent increase from the previous quarter (see Table 1). Mortgage interest rates fell too late in first quarter 1986 to impact home sales for that quarter, but they led the surge in second quarter home sales and are likely to affect third quarter sales as well.

The number of home sales typically climbs every spring, making it necessary to seasonally adjust the data. That adjustment reverses the second quarter jump to a 2.3 percent decline. Seasonally- adjusted home sales, which peaked during fourth quarter 1985 in reaction to the first major drop in interest rates during May and June, decreased slightly in the first two quarters of 1986.

People respond to a decline in interest rates by buying homes two to three months later. The second quarter 1986 seasonally adjusted decline would have been even greater had interest rates not also dropped in late 1985 and early 1986.

Sales of all types of housing – new and resale, single family and townhouse/condominium – advanced strongly during the second quarter. Townhouse/condominium sales rose for the third straight quarter, to 2,597, surpassing the previous record level of second quarter 1984.

MEDIAN SALES PRICE AND APPRECIATION RATE

The median sales price of all homes increased 3.5 percent from the previous quarter, to $77,600 during second quarter 1986, placing the median price 6.8 percent higher than it was one year earlier. The median sales price of resale townhouses and condominiums dropped 5.5 percent from second quarter 1984 to third quarter 1985, and only in second quarter 1986 did it reach its previous record level of $65,000.

Unlike home sales, home prices have not rapidly increased, primarily due to seasonality. During second quarter 1986, only a 0.6 percent difference existed between unadjusted and seasonally adjusted median prices. Rather, the increase is partially due to the purchase of larger homes. The median price per square foot rose a more modest 1.2 percent during the second quarter, while the increase from one year earlier was only 3.3 percent.

However, even after adjusting for size, the price gains of the last two quarters have been more rapid than those experienced through much of 1984 and 1985. Lower interest rates have stimulated demand, allowing sellers to receive higher prices (see Figure I).

Second quarter appreciation for single family homes, 0.7 percent, was in the 0.7 to 0.8 percent range for the 13th consecutive quarter.

OUTLOOK

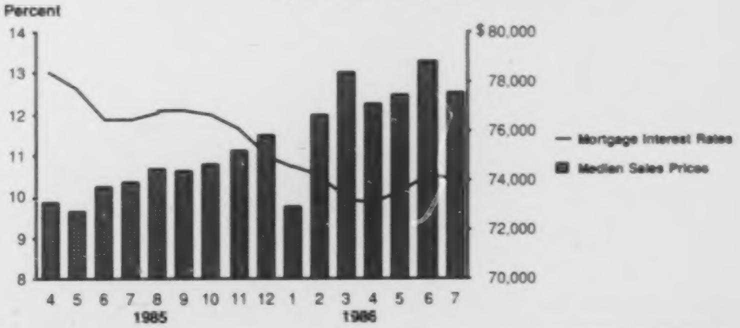
This spring's drop in interest rates should affect recorded home sales at least through July, keeping the seasonally adjusted number of home sales for third quarter 1986 near the current level. Price gains should also remain at a relatively high rate. If further interest rate declines materialize as expected, both the number of home sales and increases in the median price during the rest of 1986 could remain at, or exceed, current levels.

– Jacqueline Fifield
Research Analyst

Seasonal Adjustment

The number of homes sold and the median price rise or fall at the same time every year. Seasonally adjusting the data removes this predictability, and any changes in the data can be accurately interpreted.

FIGURE I
MORTGAGE INTEREST RATES AND SEASONALLY-ADJUSTED MEDIAN SALES PRICES OF ALL HOMES
April 1985 - July 1986



Source: Center for Business Research, College of Business, Arizona State University

TABLE 1
METROPOLITAN PHOENIX HOME SALES

	Single Family			Townhouse/Condominium			Grand Total
Second Quarter 1986	*Resale*	*New*	*Total*	*Resale*	*New*	*Total*	
Median sales price	$77,150	$87,950	$80,000	$65,000	$69,550	$66,400	$77,600
Percent change from:							
First quarter 1985	2.9	-0.3	2.6	3.2	0.1	2.2	3.5
Second quarter 1985	6.4	8.4	6.7	3.2	8.8	4.6	6.8
Number of sales	10,991	1,918	12,909	1,952	645	2,597	15,506
Percent change from:							
First quarter 1985	15.8	51.3	20.0	18.1	19.4	18.4	19.7
Second quarter 1985	10.1	-24.6	3.1	38.4	-29.3	11.8	4.4

Source: Center for Business Research, College of Business, Arizona State University; from data supplied by Marketron Services, Inc., Phoenix.